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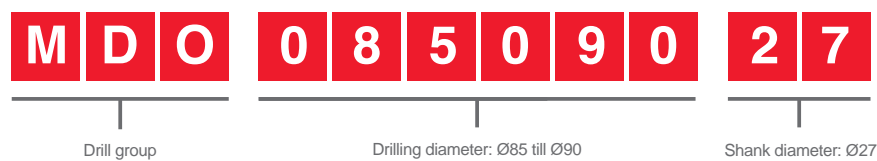
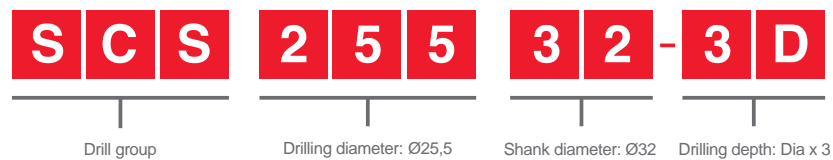
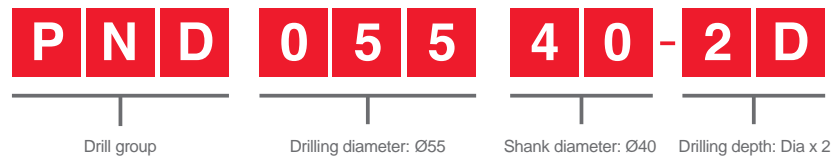
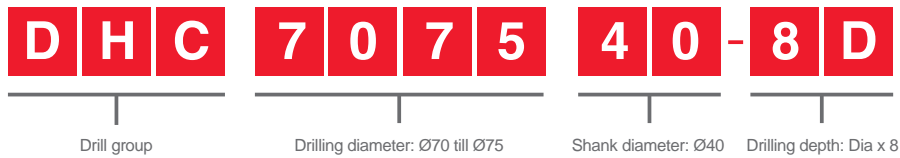
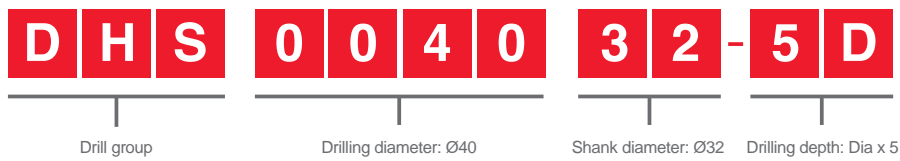
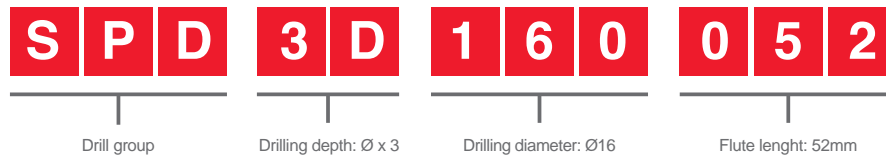
B - 40 Inserts

- B - 40 ISDN
- B - 42 SCKX
- B - 42 WCKX
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- B - 44 WCMX

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Drills Code Key | Sistema de Codificação para Brocas

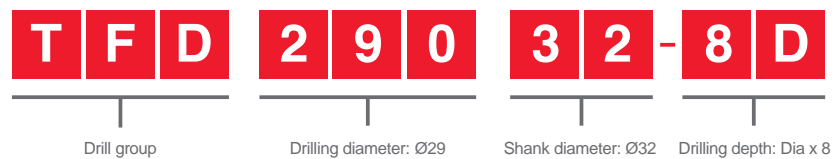
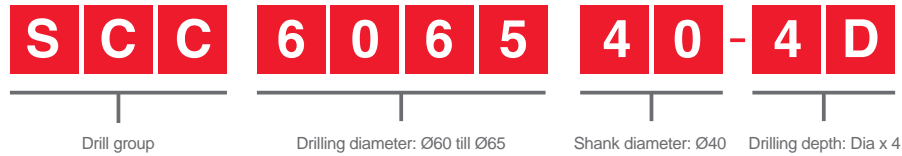
Sistema de Codificación para Brocas



B
Drilling
Indexable Insert Drill
Jet Drill
Integrex Drill
Vortex Drill
Trepanning Drill
Solid Carbide Drill
Inserts
Spare Parts
Technical Data

Drills Code Key | Sistema de Codificação para Brocas

Sistema de Codificación para Brocas



B

Drilling

Indexable
Insert Drill

Jet Drill

Integrex
Drill

Vortex Drill

Trepanning
Drill

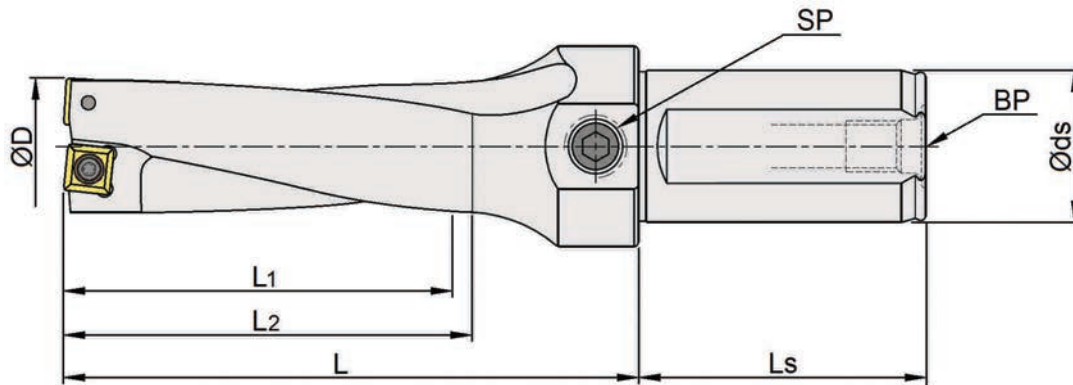
Solid
Carbide Drill

Inserts

Spare
Parts

Technical
Data

Nomeclature | Nomenclatura | Nomenclatura



- ØD - Drill diameter
- Øds - Shank diameter
- L1 - Cut length
- L2 - Safety cut length
- L - Length
- Ls - Shank Length
- SP - Side plug
- BP - Back plug

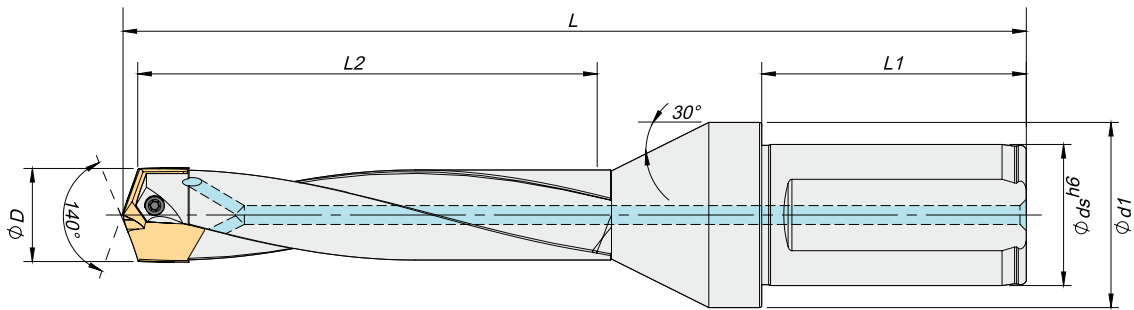
Coolant Supply | Furos de Refrigeração Agujeros de Refrigeración

New version / Standard version *

Type	BP	SP
TDS	V / V	X / V
TDC	V / V	V / V
SCS	V / V	X / V
SCC	V / V	V / V
DHS	V / V	X / V
DHC	V / V	X / V
TFD	V / V	V / V
MDS	V / V	V / V
PND	V / V	V / V

* The new version Drill will replace the standard version when this type will be sold out.



Speed Drill 3D Drilling Tool | Ferramenta | Herramienta



Order Code	Reference	Dimensions (mm)						Inserts ** Order Code		Tolerance: h7	Screw	Torx Key	Stock
		ØD*	Øds	Ød1	L	L1	L2	Grades					
								PH6910	PH6920				
214242500	SPD3D-120052	12,0 ~ 12,4	20	50	121	50	52	214238554	214238568	ISDN-120	P012013	XT8	○
214242600	SPD3D-125054	12,5 ~ 12,9	20	50	122	50	54	214238654	214238668	ISDN-125	P012013	XT8	○
214242700	SPD3D-130056	13,0 ~ 13,4	20	50	124	50	56	214238754	214238768	ISDN-130	P012013	XT8	○
214242800	SPD3D-135057	13,5 ~ 13,9	20	50	125	50	57	214238854	214238868	ISDN-135	P012013	XT8	○
214242900	SPD3D-140059	14,0 ~ 14,4	20	50	126	50	59	214238954	214238968	ISDN-140	P014015	XT8	○
214243000	SPD3D-145061	14,5 ~ 14,9	20	50	128	50	61	214239054	214239068	ISDN-145	P014015	XT8	○
214243100	SPD3D-150053	15,0 ~ 15,4	20	50	130	50	53	214239154	214239168	ISDN-150	P014015	XT8	○
214243200	SPD3D-155065	15,5 ~ 15,9	20	50	131	50	65	214239254	214239268	ISDN-155	P014015	XT8	○
214243300	SPD3D-160065	16,0 ~ 16,4	20	50	131	50	65	214239354	214239368	ISDN-160	P016017	XT8	○
214243400	SPD3D-165067	16,5 ~ 16,9	20	50	133	50	67	214239454	214239468	ISDN-165	P016017	XT8	○
214243500	SPD3D-170069	17,0 ~ 17,4	20	50	134	50	69	214239554	214239568	ISDN-170	P016017	XT8	○
214243600	SPD3D-175070	17,5 ~ 17,9	25	56	135	50	70	214239654	214239668	ISDN-175	P016017	XT8	○
214243700	SPD3D-180072	18,0 ~ 18,4	25	56	149	56	72	214239754	214239768	ISDN-180	P018019	TT15	○
214243800	SPD3D-185074	18,5 ~ 18,9	25	56	150	56	74	214239854	214239868	ISDN-185	P018019	TT15	○
214243900	SPD3D-190076	19,0 ~ 19,4	25	56	152	56	76	214239954	214239968	ISDN-190	P018019	TT15	○
214244000	SPD3D-195077	19,5 ~ 19,9	25	56	153	56	77	214240054	214240068	ISDN-195	P018019	TT15	○
214244100	SPD3D-200077	20,0 ~ 20,4	25	56	152	56	77	214240154	214240168	ISDN-200	P020021	TT20	○
214244200	SPD3D-205079	20,5 ~ 20,9	25	56	154	56	79	214240254	214240268	ISDN-205	P020021	TT20	○
214244300	SPD3D-210081	21,0 ~ 20,4	25	56	156	56	81	214240354	214240368	ISDN-210	P020021	TT20	○
214244400	SPD3D-215083	21,5 ~ 21,9	25	56	157	56	83	214240454	214240468	ISDN-215	P020021	TT20	○
214244500	SPD3D-220085	22,0 ~ 22,4	25	56	159	56	85	214240554	214240568	ISDN-220	P022023	TT20	○
214244600	SPD3D-225086	22,5 ~ 22,9	25	56	159	56	86	214240654	214240668	ISDN-225	P022023	TT20	○
214244700	SPD3D-230088	23,0 ~ 23,4	25	56	161	56	88	214240754	214240768	ISDN-230	P022023	TT20	○
214244800	SPD3D-235090	23,5 ~ 23,9	25	56	163	56	90	214240854	214240868	ISDN-235	P022023	TT20	○
214244900	SPD3D-240091	24,0 ~ 24,4	32	60	172	60	91	214240954	214240968	ISDN-240	P024025	TT20	○
214245000	SPD3D-245093	24,5 ~ 24,9	32	60	173	60	93	214241054	214241068	ISDN-245	P024025	TT20	○
214245100	SPD3D-250095	25,0 ~ 25,4	32	60	175	60	95	214241154	214241168	ISDN-250	P024025	TT20	○
214245200	SPD3D-255097	25,5 ~ 25,9	32	60	177	60	97	214241254	214241268	ISDN-255	P024025	TT20	○
214245300	SPD3D-260098	26,0 ~ 26,4	32	60	177	60	98	214241354	214241368	ISDN-260	P026027	TT25	○
214245400	SPD3D-265099	26,5 ~ 26,9	32	60	178	60	99	214241454	214241468	ISDN-265	P026027	TT25	○

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Speed Drill 3D Drilling Tool | Ferramenta | Herramienta

Order Code	Reference	Dimensions (mm)						Inserts ** Order Code		Tolerance: h7	Screw	Torx Key	Stock
		ØD*	Øds	Ød1	L	L1	L2	Grades		Insert Ref.			
								PH6910	PH6920				
214245500	SPD3D-270101	27,0 ~ 27,4	32	60	180	60	101	214241554	214241568	ISDN-270	P026027	TT25	<input type="radio"/>
214245600	SPD3D-275103	27,5 ~ 27,9	32	60	181	60	103	214241654	214241668	ISDN-275	P026027	TT25	<input type="radio"/>
214245700	SPD3D-280105	28,0 ~ 28,4	32	60	183	60	105	214241754	214241768	ISDN-280	P028029	TT25	<input type="radio"/>
214245800	SPD3D-285106	28,5 ~ 28,9	32	60	184	60	106	214241854	214241868	ISDN-285	P028029	TT25	<input type="radio"/>
214245900	SPD3D-290109	29,0 ~ 29,4	32	60	186	60	109	214241954	214241968	ISDN-290	P028029	TT25	<input type="radio"/>
214246000	SPD3D-295110	29,5 ~ 29,9	32	60	187	60	110	214242054	214242068	ISDN-295	P028029	TT25	<input type="radio"/>
214246100	SPD3D-300112	30,0 ~ 30,4	32	60	189	60	112	214242154	214242168	ISDN-300	P030031	TT25	<input type="radio"/>
214246200	SPD3D-305114	30,5 ~ 30,9	32	60	190	60	114	214242254	214242268	ISDN-305	P030031	TT25	<input type="radio"/>
214246300	SPD3D-310115	31,0 ~ 31,4	32	60	191	60	115	214242354	214242368	ISDN-310	P030031	TT25	<input type="radio"/>
214246400	SPD3D-315118	31,5 ~ 31,9	32	60	194	60	118	214242454	214242468	ISDN-315	P030031	TT25	<input type="radio"/>

(*) Drill diameter varies upon interchangeable insert (**) Other inserts diameter available under request

 Stock items / Itens de stock Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Note:

Applicable Grades	
← Wear Resistance	Toughness →
PH6910	PH6920
For general drilling	For stainless steel drilling

B

Drilling

Indexable Insert Drill

Jet Drill

Integrex Drill

Vortex Drill

Trepanning Drill

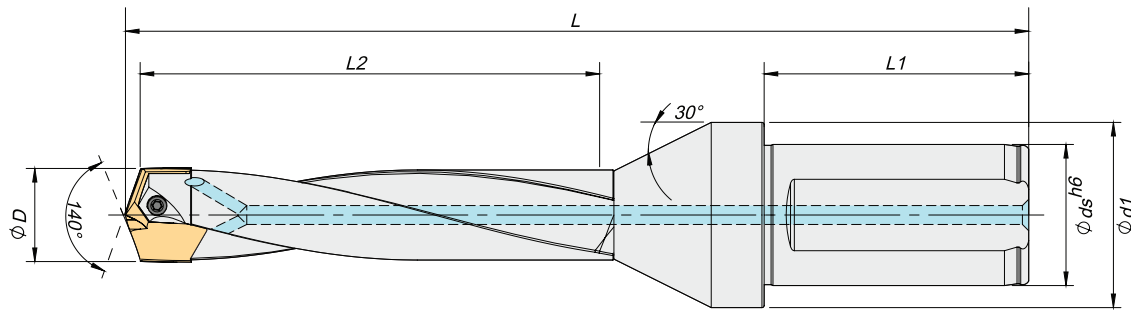
Solid Carbide Drill

Inserts

Spare Parts

Technical Data



Speed Drill 5D Drilling Tool | Ferramenta | Herramienta



Order Code	Reference	Dimensions (mm)						Inserts ** Order Code		Tolerance: h7	Screw	Torx Key	Stock
		ØD*	Øds	Ød1	L	L1	L2	Grades					
								PH6910	PH6920				
214246500	SPD5D-120077	12,0 ~ 12,4	20	50	146	50	77	214238554	214238568	ISDN-120	P012013	XT8	○
214246600	SPD5D-125080	12,5 ~ 12,9	20	50	148	50	80	214238654	214238668	ISDN-125	P012013	XT8	○
214246700	SPD5D-130083	13,0 ~ 13,4	20	50	151	50	83	214238754	214238768	ISDN-130	P012013	XT8	○
214246800	SPD5D-135085	13,5 ~ 13,9	20	50	153	50	85	214238854	214238868	ISDN-135	P012013	XT8	○
214246900	SPD5D-140088	14,0 ~ 14,4	20	50	155	50	88	214238954	214238968	ISDN-140	P014015	XT8	○
214247000	SPD5D-145091	14,5 ~ 14,9	20	50	158	50	91	214239054	214239068	ISDN-145	P014015	XT8	○
214247100	SPD5D-150094	15,0 ~ 15,4	20	50	161	50	94	214239154	214239168	ISDN-150	P014015	XT8	○
214247200	SPD5D-155097	15,5 ~ 15,9	20	50	163	50	97	214239254	214239268	ISDN-155	P014015	XT8	○
214247300	SPD5D-160098	16,0 ~ 16,4	20	50	164	50	98	214239354	214239368	ISDN-160	P016017	XT8	○
214247400	SPD5D-165101	16,5 ~ 16,9	20	50	167	50	101	214239454	214239468	ISDN-165	P016017	XT8	○
214247500	SPD5D-170104	17,0 ~ 17,4	20	50	169	50	104	214239554	214239568	ISDN-170	P016017	XT8	○
214247600	SPD5D-175106	17,5 ~ 17,9	25	56	171	50	106	214239654	214239668	ISDN-175	P016017	XT8	○
214247700	SPD5D-180109	18,0 ~ 18,4	25	56	186	56	109	214239754	214239768	ISDN-180	P018019	TT15	○
214247800	SPD5D-185112	18,5 ~ 18,9	25	56	188	56	112	214239854	214239868	ISDN-185	P018019	TT15	○
214247900	SPD5D-190115	19,0 ~ 19,4	25	56	191	56	115	214239954	214239968	ISDN-190	P018019	TT15	○
214248000	SPD5D-195117	19,5 ~ 19,9	25	56	193	56	117	214240054	214240068	ISDN-195	P018019	TT15	○
214248100	SPD5D-200118	20,0 ~ 20,4	25	56	193	56	118	214240154	214240168	ISDN-200	P020021	TT20	○
214248200	SPD5D-205121	20,5 ~ 20,9	25	56	196	56	121	214240254	214240268	ISDN-205	P020021	TT20	○
214248300	SPD5D-210124	21,0 ~ 20,4	25	56	199	56	124	214240354	214240368	ISDN-210	P020021	TT20	○
214248400	SPD5D-215126	21,5 ~ 21,9	25	56	200	56	126	214240454	214240468	ISDN-215	P020021	TT20	○
214248500	SPD5D-220129	22,0 ~ 22,4	25	56	203	56	129	214240554	214240568	ISDN-220	P022023	TT20	○
214248600	SPD5D-225132	22,5 ~ 22,9	25	56	205	56	132	214240654	214240668	ISDN-225	P022023	TT20	○
214248700	SPD5D-230135	23,0 ~ 23,4	25	56	208	56	135	214240754	214240768	ISDN-230	P022023	TT20	○
214248800	SPD5D-235137	23,5 ~ 23,9	25	56	210	56	137	214240854	214240868	ISDN-235	P022023	TT20	○
214248900	SPD5D-240140	24,0 ~ 24,4	32	60	221	60	140	214240954	214240968	ISDN-240	P024025	TT20	○
214249000	SPD5D-245143	24,5 ~ 24,9	32	60	223	60	143	214241054	214241068	ISDN-245	P024025	TT20	○
214249100	SPD5D-250146	25,0 ~ 25,4	32	60	226	60	146	214241154	214241168	ISDN-250	P024025	TT20	○
214249200	SPD5D-255148	25,5 ~ 25,9	32	60	228	60	148	214241254	214241268	ISDN-255	P024025	TT20	○
214249300	SPD5D-260150	26,0 ~ 26,4	32	60	229	60	150	214241354	214241368	ISDN-260	P026027	TT25	○
214249400	SPD5D-265152	26,5 ~ 26,9	32	60	231	60	152	214241454	214241468	ISDN-265	P026027	TT25	○

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Speed Drill 5D Drilling Tool | Ferramenta | Herramienta

Order Code	Reference	Dimensions (mm)						Inserts ** Order Code		Tolerance: h7	Screw	Torx Key	Stock
		ØD*	Øds	Ød1	L	L1	L2	Grades		Insert Ref.			
								PH6910	PH6920				
214249500	SPD5D-270155	27,0 ~ 27,4	32	60	234	60	155	214241554	214241568	ISDN-270	P026027	TT25	<input type="radio"/>
214249600	SPD5D-275159	27,5 ~ 27,9	32	60	237	60	159	214241654	214241668	ISDN-275	P026027	TT25	<input type="radio"/>
214249700	SPD5D-280161	28,0 ~ 28,4	32	60	239	60	161	214241754	214241768	ISDN-280	P028029	TT25	<input type="radio"/>
214249800	SPD5D-285163	28,5 ~ 28,9	32	60	241	60	163	214241854	214241868	ISDN-285	P028029	TT25	<input type="radio"/>
214249900	SPD5D-290168	29,0 ~ 29,4	32	60	245	60	168	214241954	214241968	ISDN-290	P028029	TT25	<input type="radio"/>
214250000	SPD5D-295170	29,5 ~ 29,9	32	60	247	60	170	214242054	214242068	ISDN-295	P028029	TT25	<input type="radio"/>
214250100	SPD5D-300172	30,0 ~ 30,4	32	60	249	60	172	214242154	214242168	ISDN-300	P050031	TT25	<input type="radio"/>
214250200	SPD5D-305176	30,5 ~ 30,9	32	60	252	60	176	214242254	214242268	ISDN-305	P050031	TT25	<input type="radio"/>
214250300	SPD5D-310177	31,0 ~ 31,4	32	60	253	60	177	214242354	214242368	ISDN-310	P050031	TT25	<input type="radio"/>
214250400	SPD5D-315182	31,5 ~ 31,9	32	60	258	60	182	214242454	214242468	ISDN-315	P050031	TT25	<input type="radio"/>

(*) Drill diameter varies upon interchangeable insert (**) Other inserts diameter available under request

 Stock items / Itens de stock Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Note:

Applicable Grades	
← Wear Resistance	Toughness →
PH6910	PH6920
For general drilling	For stainless steel drilling

B

Drilling

Indexable Insert Drill

Jet Drill

Integrex Drill

Vortex Drill

Trepanning Drill

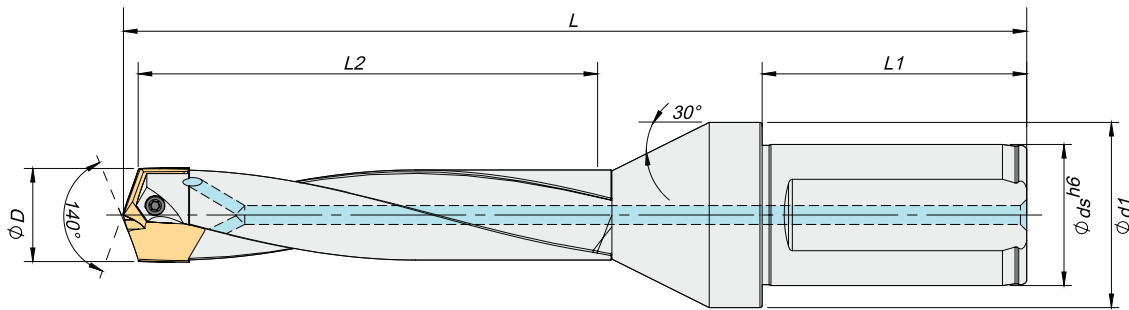
Solid Carbide Drill

Inserts

Spare Parts

Technical Data



Speed Drill 7D Drilling Tool | Ferramenta | Herramienta



Order Code	Reference	Dimensions (mm)						Inserts ** Order Code		Tolerance: h7	Screw	Torx Key	Stock	
		ØD*	Øds	Ød1	L	L1	L2	Grades						Insert Ref.
								PH6910	PH6920					
214250500	SPD7D-120101	12,0 ~ 12,4	20	50	170	50	101	214238554	214238568	ISDN-120	P012013	XT8	○	
214250600	SPD7D-125106	12,5 ~ 12,9	20	50	174	50	106	214238654	214238668	ISDN-125	P012013	XT8	○	
214250700	SPD7D-130110	13,0 ~ 13,4	20	50	178	50	110	214238754	214238768	ISDN-130	P012013	XT8	○	
214250800	SPD7D-135113	13,5 ~ 13,9	20	50	181	50	113	214238854	214238868	ISDN-135	P012013	XT8	○	
214250900	SPD7D-140117	14,0 ~ 14,4	20	50	184	50	117	214238954	214238968	ISDN-140	P014015	XT8	○	
214251000	SPD7D-145121	14,5 ~ 14,9	20	50	188	50	121	214239054	214239068	ISDN-145	P014015	XT8	○	
214251100	SPD7D-150125	15,0 ~ 15,4	20	50	192	50	125	214239154	214239168	ISDN-150	P014015	XT8	○	
214251200	SPD7D-155128	15,5 ~ 15,9	20	50	194	50	128	214239254	214239268	ISDN-155	P014015	XT8	○	
214251300	SPD7D-160131	16,0 ~ 16,4	20	50	197	50	131	214239354	214239368	ISDN-160	P016017	XT8	○	
214251400	SPD7D-165134	16,5 ~ 16,9	20	50	200	50	134	214239454	214239468	ISDN-165	P016017	XT8	○	
214251500	SPD7D-170139	17,0 ~ 17,4	20	50	204	50	139	214239554	214239568	ISDN-170	P016017	XT8	○	
214251600	SPD7D-175142	17,5 ~ 17,9	25	56	207	50	142	214239654	214239668	ISDN-175	P016017	XT8	○	
214251700	SPD7D-180146	18,0 ~ 18,4	25	56	223	56	146	214239754	214239768	ISDN-180	P018019	TT15	○	
214251800	SPD7D-185150	18,5 ~ 18,9	25	56	226	56	150	214239854	214239868	ISDN-185	P018019	TT15	○	
214251900	SPD7D-190154	19,0 ~ 19,4	25	56	230	56	154	214239954	214239968	ISDN-190	P018019	TT15	○	
214252000	SPD7D-195157	19,5 ~ 19,9	25	56	233	56	157	214240054	214240068	ISDN-195	P018019	TT15	○	
214252100	SPD7D-200159	20,0 ~ 20,4	25	56	234	56	159	214240154	214240168	ISDN-200	P020021	TT20	○	
214252200	SPD7D-205163	20,5 ~ 20,9	25	56	238	56	163	214240254	214240268	ISDN-205	P020021	TT20	○	
214252300	SPD7D-210167	21,0 ~ 20,4	25	56	242	56	167	214240354	214240368	ISDN-210	P020021	TT20	○	
214252400	SPD7D-215170	21,5 ~ 21,9	25	56	244	56	170	214240454	214240468	ISDN-215	P020021	TT20	○	
214252500	SPD7D-220174	22,0 ~ 22,4	25	56	248	56	174	214240554	214240568	ISDN-220	P022023	TT20	○	
214252600	SPD7D-225178	22,5 ~ 22,9	25	56	251	56	178	214240654	214240668	ISDN-225	P022023	TT20	○	
214252700	SPD7D-230182	23,0 ~ 23,4	25	56	255	56	182	214240754	214240768	ISDN-230	P022023	TT20	○	
214252800	SPD7D-235185	23,5 ~ 23,9	25	56	258	56	185	214240854	214240868	ISDN-235	P022023	TT20	○	
214252900	SPD7D-240189	24,0 ~ 24,4	32	60	270	60	189	214240954	214240968	ISDN-240	P024025	TT20	○	
214253000	SPD7D-245193	24,5 ~ 24,9	32	60	273	60	193	214241054	214241068	ISDN-245	P024025	TT20	○	
214253100	SPD7D-250197	25,0 ~ 25,4	32	60	277	60	197	214241154	214241168	ISDN-250	P024025	TT20	○	
214253200	SPD7D-255200	25,5 ~ 25,9	32	60	280	60	200	214241254	214241268	ISDN-255	P024025	TT20	○	
214253300	SPD7D-260202	26,0 ~ 26,4	32	60	281	60	202	214241354	214241368	ISDN-260	P026027	TT25	○	
214253400	SPD7D-265205	26,5 ~ 26,9	32	60	284	60	205	214241454	214241468	ISDN-265	P026027	TT25	○	

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Speed Drill 7D Drilling Tool | Ferramenta | Herramienta

Order Code	Reference	Dimensions (mm)						Inserts ** Order Code		Tolerance: h7	Screw	Torx Key	Stock
		ØD*	Øds	Ød1	L	L1	L2	Grades		Insert Ref.			
								PH6910	PH6920				
214253500	SPD7D-270209	27,0 ~ 27,4	32	60	288	60	209	214241554	214241568	ISDN-270	P026027	TT25	<input type="radio"/>
214253600	SPD7D-275214	27,5 ~ 27,9	32	60	292	60	214	214241654	214241668	ISDN-275	P026027	TT25	<input type="radio"/>
214253700	SPD7D-280217	28,0 ~ 28,4	32	60	295	60	217	214241754	214241768	ISDN-280	P028029	TT25	<input type="radio"/>
214253800	SPD7D-285220	28,5 ~ 28,9	32	60	298	60	220	214241854	214241868	ISDN-285	P028029	TT25	<input type="radio"/>
214253900	SPD7D-290226	29,0 ~ 29,4	32	60	303	60	226	214241954	214241968	ISDN-290	P028029	TT25	<input type="radio"/>
214254000	SPD7D-295229	29,5 ~ 29,9	32	60	306	60	229	214242054	214242068	ISDN-295	P028029	TT25	<input type="radio"/>
214254100	SPD7D-300232	30,0 ~ 30,4	32	60	309	60	232	214242154	214242168	ISDN-300	P070031	TT25	<input type="radio"/>
214254200	SPD7D-305238	30,5 ~ 30,9	32	60	314	60	238	214242254	214242268	ISDN-305	P070031	TT25	<input type="radio"/>
214254300	SPD7D-310239	31,0 ~ 31,4	32	60	315	60	239	214242354	214242368	ISDN-310	P070031	TT25	<input type="radio"/>
214254400	SPD7D-315246	31,5 ~ 31,9	32	60	322	60	246	214242454	214242468	ISDN-315	P070031	TT25	<input type="radio"/>

(*) Drill diameter varies upon interchangeable insert (**) Other inserts diameter available under request

 Stock items / Itens de stock Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Note:

Applicable Grades	
← Wear Resistance	Toughness →
PH6910	PH6920
For general drilling	For stainless steel drilling

B

Drilling

Indexable Insert Drill

Jet Drill

Integrex Drill

Vortex Drill

Trepanning Drill

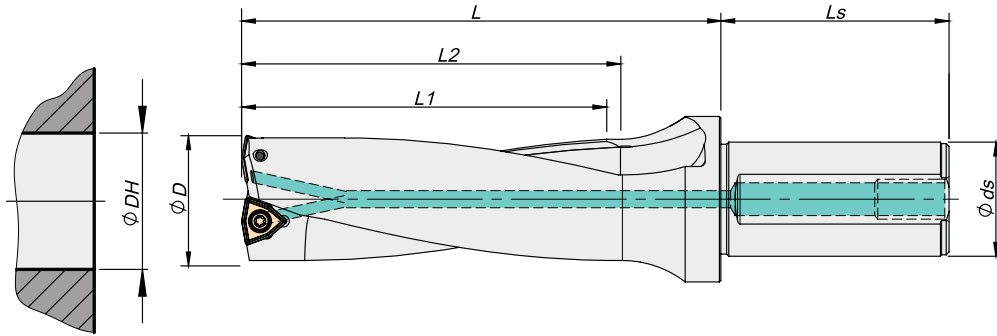
Solid Carbide Drill

Inserts

Spare Parts

Technical Data

TDS 3D Drilling Tool | Ferramenta | Herramienta



ØDH tolerance (mm)	
ØD	3D
13,0 - 21,5	-0,10 / +0,15
22,0 - 50,0	-0,12 / +0,20
50,0 - 58,0	-0,15 / +0,25

Øds	Ls	BP / SP
20	50	PT-1/8
25	56	PT-1/8
32	60	PT-1/4
40	70	PT-1/4

Order Code	Reference	Dimensions (mm)					Insert	Screw	Torx Key	Stock
		ØD	Øds	L1	L2	L				
184034600	TDS 13020-3D	13,0	20	39	42	62	WC... 02T104	P0180500	XT06	Ⓢ
184034700	TDS 13520-3D	13,5	20	41	44	64	WC... 02T104	P0180500	XT06	Ⓢ
184034800	TDS 14020-3D	14,0	20	42	45	65	WC... 02T104	P0180500	XT06	Ⓢ
184034900	TDS 14520-3D	14,5	20	44	47	67	WC... 02T104	P0180500	XT06	Ⓢ
184035000	TDS 15020-3D	15,0	20	45	48	68	WC... 02T104	P0180500	XT06	Ⓢ
184035100	TDS 15520-3D	15,5	20	47	50	70	WC... 02T104	P0180500	XT06	Ⓢ
184035200	TDS 16025-3D	16,0	25	48	51	76	WC... 030204	P0220500	XT07	Ⓢ
184035300	TDS 16525-3D	16,5	25	50	53	78	WC... 030204	P0220500	XT07	Ⓢ
184035400	TDS 17025-3D	17,0	25	51	54	79	WC... 030204	P0220500	XT07	Ⓢ
184035500	TDS 17525-3D	17,5	25	53	56	81	WC... 030204	P0220500	XT07	Ⓢ
184035600	TDS 18025-3D	18,0	25	54	57	82	WC... 030204	P0220500	XT07	Ⓢ
184035700	TDS 18525-3D	18,5	25	56	59	84	WC... 030204	P0220500	XT07	Ⓢ
184035800	TDS 19025-3D	19,0	25	57	60	85	WC... 030204	P0220500	XT07	Ⓢ
184035900	TDS 19525-3D	19,5	25	59	62	87	WC... 030204	P0220500	XT07	Ⓢ
184036000	TDS 20025-3D	20,0	25	60	63	88	WC... 030204	P0220500	XT07	Ⓢ
184036100	TDS 20525-3D	20,5	25	62	65	90	WC... 040204	P0250503	XT08	Ⓢ
184036200	TDS 21025-3D	21,0	25	63	66	91	WC... 040204	P0250503	XT08	Ⓢ
184036300	TDS 21525-3D	21,5	25	65	68	93	WC... 040204	P0250503	XT08	Ⓢ
184036400	TDS 22025-3D	22,0	25	66	69	94	WC... 040204	P0250503	XT08	Ⓢ
184036500	TDS 22525-3D	22,5	25	68	71	96	WC... 040204	P0250503	XT08	Ⓢ
184036600	TDS 23025-3D	23,0	25	69	72	97	WC... 040204	P0250503	XT08	Ⓢ
184036700	TDS 23525-3D	23,5	25	71	74	99	WC... 040204	P0250503	XT08	Ⓢ
184036800	TDS 24025-3D	24,0	25	72	75	100	WC... 040204	P0250503	XT08	Ⓢ
184036900	TDS 24525-3D	24,5	25	74	77	102	WC... 040204	P0250503	XT08	Ⓢ
184037000	TDS 25025-3D	25,0	25	75	78	103	WC... 040204	P0250503	XT08	Ⓢ
184037100	TDS 25532-3D	25,5	32	77	80	110	WC... 050308	P0300701	XT08	Ⓢ
184037200	TDS 26032-3D	26,0	32	78	81	111	WC... 050308	P0300701	XT08	Ⓢ
184037300	TDS 26532-3D	26,5	32	80	83	113	WC... 050308	P0300701	XT08	Ⓢ
184037400	TDS 27032-3D	27,0	32	81	84	114	WC... 050308	P0300701	XT08	Ⓢ
184037500	TDS 27532-3D	27,5	32	83	86	116	WC... 050308	P0300701	XT08	Ⓢ

Ⓢ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta



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PAG B - 45



PAG B - 52



PAG B - 56

B - 11

TDS 3D Drilling Tool | Ferramenta | Herramienta

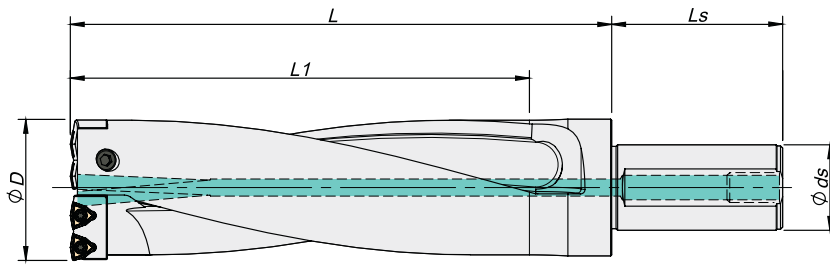
Order Code	Reference	Dimensions (mm)					Insert	Screw	Torx Key	Stock
		ØD	Øds	L1	L2	L				
184037600	TDS 28032-3D	28,0	32	84	87	117	WC... 050308	P0300701	XT08	📦
184037700	TDS 28532-3D	28,5	32	86	89	119	WC... 050308	P0300701	XT08	📦
184037800	TDS 29032-3D	29,0	32	87	90	120	WC... 050308	P0300701	XT08	📦
184037900	TDS 29532-3D	29,5	32	89	92	122	WC... 050308	P0300701	XT08	📦
184038000	TDS 30032-3D	30,0	32	90	93	123	WC... 050308	P0300701	XT08	📦
184038100	TDS 31032-3D	31,0	32	93	96	126	WC... 06T308	P0350903	XT15S35	📦
184038200	TDS 32032-3D	32,0	32	96	99	129	WC... 06T308	P0350903	XT15S35	📦
184038300	TDS 33032-3D	33,0	32	99	102	132	WC... 06T308	P0350903	XT15S35	📦
184038400	TDS 34032-3D	34,0	32	102	105	135	WC... 06T308	P0350903	XT15S35	📦
184038500	TDS 35032-3D	35,0	32	105	108	138	WC... 06T308	P0350903	XT15S35	📦
184038600	TDS 36032-3D	36,0	32	108	111	141	WC... 06T308	P0350903	XT15S35	📦
184038700	TDS 37032-3D	37,0	32	111	114	144	WC... 06T308	P0350903	XT15S35	📦
184038800	TDS 38032-3D	38,0	32	114	117	147	WC... 06T308	P0350903	XT15S35	📦
184038900	TDS 39032-3D	39,0	32	117	120	150	WC... 06T308	P0350903	XT15S35	📦
184039000	TDS 40032-3D	40,0	32	120	123	153	WC... 06T308	P0350903	XT15S35	📦
184039100	TDS 41032-3D	41,0	32	123	126	156	WC... 06T308	P0350903	XT15S35	📦
184039200	TDS 42040-3D	42,0	40	126	129	164	WC... 080408	P0401101	XT15S35	📦
184039300	TDS 43040-3D	43,0	40	129	132	167	WC... 080408	P0401101	XT15S35	📦
184039400	TDS 44040-3D	44,0	40	132	135	170	WC... 080408	P0401101	XT15S35	📦
184039500	TDS 45040-3D	45,0	40	135	138	173	WC... 080408	P0401101	XT15S35	📦
184039600	TDS 46040-3D	46,0	40	138	141	176	WC... 080408	P0401101	XT15S35	📦
184039700	TDS 47040-3D	47,0	40	141	144	179	WC... 080408	P0401101	XT15S35	📦
184039800	TDS 48040-3D	48,0	40	144	147	182	WC... 080408	P0401101	XT15S35	📦
184039900	TDS 49040-3D	49,0	40	147	150	185	WC... 080408	P0401101	XT15S35	📦
184040000	TDS 50040-3D	50,0	40	150	153	188	WC... 080408	P0401101	XT15S35	📦
184040100	TDS 51040-3D	51,0	40	153	156	191	WC... 080408	P0401101	XT15S35	📦
184040200	TDS 52040-3D	52,0	40	156	159	194	WC... 080408	P0401101	XT15S35	📦
184040300	TDS 53040-3D	53,0	40	159	162	197	WC... 080408	P0401101	XT15S35	📦
184040400	TDS 54040-3D	54,0	40	162	165	200	WC... 080408	P0401101	XT15S35	📦
184040500	TDS 55040-3D	55,0	40	165	168	203	WC... 080408	P0401101	XT15S35	📦
184040600	TDS 56040-3D	56,0	40	168	171	206	WC... 080408	P0401101	XT15S35	📦
184040700	TDS 57040-3D	57,0	40	171	174	209	WC... 080408	P0401101	XT15S35	📦
184040800	TDS 58040-3D	58,0	40	174	177	212	WC... 080408	P0401101	XT15S35	📦

📦 Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

- B
- Drilling
- Indexable Insert Drill
- Jet Drill
- Integrex Drill
- Vortex Drill
- Trepanning Drill
- Solid Carbide Drill
- Inserts
- Spare Parts
- Technical Data

TDC 3D

Cartridge Type (Double Insert) Drilling Tool | Ferramenta | Herramienta



Øds	Ls	BP / SP
40	70	PT-1/4

Order Code	Reference	Dimensions (mm)				Cartridge	Insert	Screw	Torx Key	Stock
		ØD	Øds	L1	L					
184040900	TDC 596540-3D	59-65	40	195	235	TDC 059065-I/O	WC... 06T308	P0350903	XT15S35	Ⓢ
184041000	TDC 657040-3D	65-70	40	210	250	TDC 065070-I/O	WC... 06T308	P0350903	XT15S35	Ⓢ
184041100	TDC 707540-3D	70-75	40	225	265	TDC 070075-I/O	WC... 06T308	P0350903	XT15S35	Ⓢ
184041200	TDC 758040-3D	75-80	40	240	280	TDC 075080-I/O	WC... 06T308	P0350903	XT15S35	Ⓢ

Ⓢ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

B

Drilling

Indexable Insert Drill

Jet Drill

Integrex Drill

Vortex Drill

Trepanning Drill

Solid Carbide Drill

Inserts

Spare Parts

Technical Data



PAG B - 42



PAG B - 45



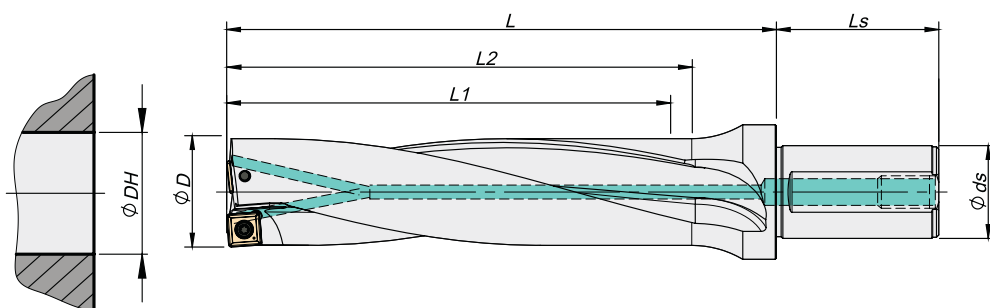
PAG B - 52



PAG B - 56

B - 13

SCS 3D Drilling Tool | Ferramenta | Herramienta



ØDH tolerance (mm)	
ØD	3D
13,0 - 21,5	-0,10 / +0,15
22,0 - 50,0	-0,12 / +0,20

Øds	Ls	BP / SP
20	50	PT-1/8
25	56	PT-1/8
32	60	PT-1/4
40	70	PT-1/4

- B
- Drilling
- Indexable Insert Drill
- Jet Drill
- Integrex Drill
- Vortex Drill
- Trepanning Drill
- Solid Carbide Drill
- Inserts
- Spare Parts

Order Code	Reference	Dimensions (mm)					Insert	Screw	Torx Key	Stock
		ØD	Øds	L1	L2	L				
184041400	SCS 13020-3D	13,0	20	39	42	62	SP... 050204	P0200500	XT06	⊗
184041500	SCS 13520-3D	13,5	20	41	44	64	SP... 050204	P0200500	XT06	○
184041600	SCS 14020-3D	14,0	20	42	45	65	SP... 050204	P0200500	XT06	⊗
184041700	SCS 14520-3D	14,5	20	44	47	67	SP... 050204	P0200500	XT06	○
184041800	SCS 15020-3D	15,0	20	45	48	68	SP... 050204	P0200500	XT06	⊗
184041900	SCS 15525-3D	15,5	25	47	50	75	SP... 060204	P0220500	XT07	○
184042000	SCS 16025-3D	16,0	25	48	51	76	SP... 060204	P0220500	XT07	⊗
184042100	SCS 16525-3D	16,5	25	50	53	78	SP... 060204	P0220500	XT07	○
184042200	SCS 17025-3D	17,0	25	51	54	79	SP... 060204	P0220500	XT07	⊗
184042300	SCS 17525-3D	17,5	25	53	56	81	SP... 060204	P0220500	XT07	○
184042400	SCS 18025-3D	18,0	25	54	57	82	SP... 060204	P0220500	XT07	⊗
184042500	SCS 18525-3D	18,5	25	56	59	84	SP... 060204	P0220500	XT07	○
184042600	SCS 19025-3D	19,0	25	57	60	85	SP... 060204	P0220500	XT07	⊗
184042700	SCS 19525-3D	19,5	25	59	62	87	SP... 060204	P0220500	XT07	○
184042800	SCS 20025-3D	20,0	25	60	63	88	SP... 060204	P0220500	XT07	⊗
184042900	SCS 20525-3D	20,5	25	62	65	90	SP... 060204	P0220500	XT07	○
184043000	SCS 21025-3D	21,0	25	63	66	91	SP... 060204	P0220500	XT07	⊗
184043100	SCS 21525-3D	21,5	25	65	68	93	SP... 060204	P0220500	XT07	○
184043200	SCS 22032-3D	22,0	32	66	69	99	SP... 07T308	P0250704	XT08	⊗
184043300	SCS 22532-3D	22,5	32	68	71	101	SP... 07T308	P0250704	XT08	○
184043400	SCS 23032-3D	23,0	32	69	72	102	SP... 07T308	P0250704	XT08	⊗
184043500	SCS 23532-3D	23,5	32	71	74	104	SP... 07T308	P0250704	XT08	○
184043600	SCS 24032-3D	24,0	32	72	75	105	SP... 07T308	P0250704	XT08	⊗
184043700	SCS 24532-3D	24,5	32	74	77	107	SP... 07T308	P0250704	XT08	○
184043800	SCS 25032-3D	25,0	32	75	78	108	SP... 07T308	P0250704	XT08	⊗
184043900	SCS 25532-3D	25,5	32	77	80	110	SP... 07T308	P0250704	XT08	○
184044000	SCS 26032-3D	26,0	32	78	81	111	SP... 07T308	P0250704	XT08	⊗
184044100	SCS 26532-3D	26,5	32	80	83	113	SP... 07T308	P0250704	XT08	○
184044200	SCS 27032-3D	27,0	32	81	84	114	SP... 07T308	P0250704	XT08	⊗
184044400	SCS 27532-3D	27,5	32	83	86	116	SP... 07T308	P0250704	XT08	○

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

SCS 3D Drilling Tool | Ferramenta | Herramienta

Order Code	Reference	Dimensions (mm)					Insert	Screw	Torx Key	Stock
		ØD	Øds	L1	L2	L				
184044500	SCS 28032-3D	28,0	32	84	87	117	SP... 090408	P0350903	XT15S35	⊗
184044600	SCS 28532-3D	28,5	32	86	89	119	SP... 090408	P0350903	XT15S35	○
184044700	SCS 29032-3D	29,0	32	87	90	120	SP... 090408	P0350903	XT15S35	⊗
184044800	SCS 29532-3D	29,5	32	89	93	123	SP... 090408	P0350903	XT15S35	○
184044900	SCS 30032-3D	30,0	32	90	95	125	SP... 090408	P0350903	XT15S35	⊗
184045000	SCS 31032-3D	31,0	32	93	98	128	SP... 090408	P0350903	XT15S35	⊗
184045100	SCS 32032-3D	32,0	32	96	101	131	SP... 090408	P0350903	XT15S35	⊗
184045200	SCS 33032-3D	33,0	32	99	104	134	SP... 090408	P0350903	XT15S35	⊗
184045300	SCS 34040-3D	34,0	40	102	107	142	SP... 110408	P0401200	XT15S35	⊗
184045400	SCS 35040-3D	35,0	40	105	110	145	SP... 110408	P0401200	XT15S35	⊗
184045500	SCS 36040-3D	36,0	40	108	113	148	SP... 110408	P0401200	XT15S35	⊗
184045600	SCS 37040-3D	37,0	40	111	116	151	SP... 110408	P0401200	XT15S35	○
184045700	SCS 38040-3D	38,0	40	114	119	154	SP... 110408	P0401200	XT15S35	○
184045800	SCS 39040-3D	39,0	40	117	122	157	SP... 110408	P0401200	XT15S35	○
184045900	SCS 40040-3D	40,0	40	120	125	160	SP... 110408	P0401200	XT15S35	○
184046000	SCS 41040-3D	41,0	40	123	128	163	SP... 110408	P0401200	XT15S35	○
184046100	SCS 42040-3D	42,0	40	126	131	166	SP... 140512	P0501300	XT20S40	○
184046200	SCS 43040-3D	43,0	40	129	134	169	SP... 140512	P0501300	XT20S40	○
184046300	SCS 44040-3D	44,0	40	132	137	172	SP... 140512	P0501300	XT20S40	○
184046400	SCS 45040-3D	45,0	40	135	140	175	SP... 140512	P0501300	XT20S40	○
184046500	SCS 46040-3D	46,0	40	138	143	178	SP... 140512	P0501300	XT20S40	○
184046600	SCS 47040-3D	47,0	40	141	146	181	SP... 140512	P0501300	XT20S40	○
184046700	SCS 48040-3D	48,0	40	144	149	184	SP... 140512	P0501300	XT20S40	○
184046800	SCS 49040-3D	49,0	40	147	152	187	SP... 140512	P0501300	XT20S40	○
184046900	SCS 50040-3D	50,0	40	150	155	190	SP... 140512	P0501300	XT20S40	○

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

B
Drilling
Indexable Insert Drill
Jet Drill
Integrex Drill
Vortex Drill
Trepanning Drill
Solid Carbide Drill
Inserts
Spare Parts
Technical Data



PAG B - 42



PAG B - 45



PAG B - 52

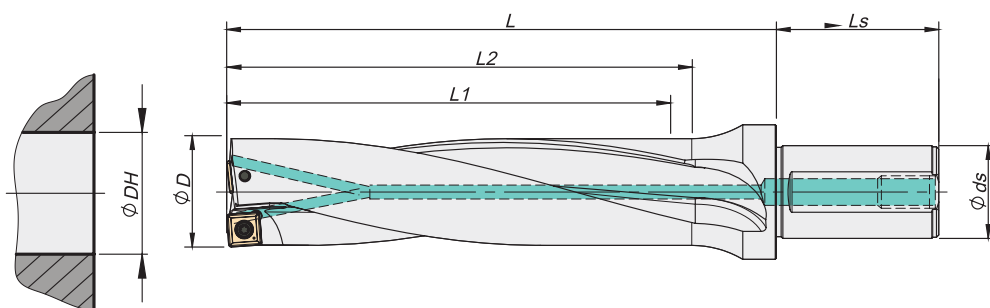


PAG B - 59

B - 15



SCS 4D Drilling Tool | Ferramenta | Herramienta



ØDH tolerance (mm)	
ØD	4D
13,0 - 21,5	-0,15 / +0,20
22,0 - 50,0	-0,15 / +0,25

Øds	Ls	BP / SP
20	50	PT-1/8
25	56	PT-1/8
32	60	PT-1/4
40	70	PT-1/4

- B
- Drilling
- Indexable Insert Drill
- Jet Drill
- Integrex Drill
- Vortex Drill
- Trepanning Drill
- Solid Carbide Drill
- Inserts
- Spare Parts

Order Code	Reference	Dimensions (mm)					Insert	Screw	Torx Key	Stock
		ØD	Øds	L1	L2	L				
184047100	SCS 13020-4D	13,0	20	52	55	75	SP... 050204	P0200500	XT06	Ⓢ
184047200	SCS 13520-4D	13,5	20	54	57	77	SP... 050204	P0200500	XT06	Ⓢ
184047300	SCS 14020-4D	14,0	20	56	59	79	SP... 050204	P0200500	XT06	Ⓢ
184047400	SCS 14520-4D	14,5	20	58	61	81	SP... 050204	P0200500	XT06	Ⓢ
184047500	SCS 15020-4D	15,0	20	60	63	83	SP... 050204	P0200500	XT06	Ⓢ
184047600	SCS 15525-4D	15,5	25	62	65	90	SP... 060204	P0220500	XT07	Ⓢ
184047700	SCS 16025-4D	16,0	25	64	67	92	SP... 060204	P0220500	XT07	Ⓢ
184047800	SCS 16525-4D	16,5	25	66	69	94	SP... 060204	P0220500	XT07	Ⓢ
184047900	SCS 17025-4D	17,0	25	68	71	96	SP... 060204	P0220500	XT07	Ⓢ
184048000	SCS 17525-4D	17,5	25	70	73	98	SP... 060204	P0220500	XT07	Ⓢ
184048100	SCS 18025-4D	18,0	25	72	75	100	SP... 060204	P0220500	XT07	Ⓢ
184048200	SCS 18525-4D	18,5	25	74	77	102	SP... 060204	P0220500	XT07	Ⓢ
184048300	SCS 19025-4D	19,0	25	76	79	104	SP... 060204	P0220500	XT07	Ⓢ
184048400	SCS 19525-4D	19,5	25	78	81	106	SP... 060204	P0220500	XT07	Ⓢ
184048500	SCS 20025-4D	20,0	25	80	83	108	SP... 060204	P0220500	XT07	Ⓢ
184048600	SCS 20525-4D	20,5	25	82	85	110	SP... 060204	P0220500	XT07	Ⓢ
184048700	SCS 21025-4D	21,0	25	84	87	112	SP... 060204	P0220500	XT07	Ⓢ
184048800	SCS 21525-4D	21,5	25	86	89	114	SP... 060204	P0220500	XT07	Ⓢ
184048900	SCS 22032-4D	22,0	32	88	91	121	SP... 07T308	P0250704	XT08	Ⓢ
184049000	SCS 22532-4D	22,5	32	90	93	123	SP... 07T308	P0250704	XT08	Ⓢ
184049100	SCS 23032-4D	23,0	32	92	95	125	SP... 07T308	P0250704	XT08	Ⓢ
184049200	SCS 23532-4D	23,5	32	94	97	127	SP... 07T308	P0250704	XT08	Ⓢ
184049300	SCS 24032-4D	24,0	32	96	99	129	SP... 07T308	P0250704	XT08	Ⓢ
184049400	SCS 24532-4D	24,5	32	98	101	131	SP... 07T308	P0250704	XT08	Ⓢ
184049500	SCS 25032-4D	25,0	32	100	103	133	SP... 07T308	P0250704	XT08	Ⓢ
184049600	SCS 25532-4D	25,5	32	102	105	135	SP... 07T308	P0250704	XT08	Ⓢ
184049700	SCS 26032-4D	26,0	32	104	107	137	SP... 07T308	P0250704	XT08	Ⓢ
184049800	SCS 26532-4D	26,5	32	106	109	139	SP... 07T308	P0250704	XT08	Ⓢ
184049900	SCS 27032-4D	27,0	32	108	111	141	SP... 07T308	P0250704	XT08	Ⓢ
184050000	SCS 27532-4D	27,5	32	110	113	143	SP... 07T308	P0250704	XT08	Ⓢ

Ⓢ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

SCS 4D Drilling Tool | Ferramenta | Herramienta

Order Code	Reference	Dimensions (mm)					Insert	Screw	Torx Key	Stock
		ØD	Øds	L1	L2	L				
184050100	SCS 28032-4D	28,0	32	112	115	145	SP... 090408	P0350903	XT15S35	📦
184050200	SCS 28532-4D	28,5	32	114	117	147	SP... 090408	P0350903	XT15S35	📦
184050300	SCS 29032-4D	29,0	32	116	120	150	SP... 090408	P0350903	XT15S35	📦
184050400	SCS 29532-4D	29,5	32	118	123	153	SP... 090408	P0350903	XT15S35	📦
184050500	SCS 30032-4D	30,0	32	120	125	155	SP... 090408	P0350903	XT15S35	📦
184050600	SCS 31032-4D	31,0	32	124	129	159	SP... 090408	P0350903	XT15S35	📦
184050700	SCS 32032-4D	32,0	32	128	133	163	SP... 090408	P0350903	XT15S35	📦
184050800	SCS 33032-4D	33,0	32	132	137	167	SP... 090408	P0350903	XT15S35	📦
184050900	SCS 34040-4D	34,0	40	136	141	176	SP... 110408	P0401200	XT15S35	📦
184051000	SCS 35040-4D	35,0	40	140	145	180	SP... 110408	P0401200	XT15S35	📦
184051100	SCS 36040-4D	36,0	40	144	149	184	SP... 110408	P0401200	XT15S35	📦
184051200	SCS 37040-4D	37,0	40	148	153	188	SP... 110408	P0401200	XT15S35	📦
184051300	SCS 38040-4D	38,0	40	152	157	192	SP... 110408	P0401200	XT15S35	📦
184051400	SCS 39040-4D	39,0	40	156	161	196	SP... 110408	P0401200	XT15S35	📦
184051500	SCS 40040-4D	40,0	40	160	165	200	SP... 110408	P0401200	XT15S35	📦
184051600	SCS 41040-4D	41,0	40	164	169	204	SP... 110408	P0401200	XT15S35	📦
184051700	SCS 42040-4D	42,0	40	168	173	208	SP... 140512	P0501300	XT20S40	📦
184051800	SCS 43040-4D	43,0	40	172	177	212	SP... 140512	P0501300	XT20S40	📦
184051900	SCS 44040-4D	44,0	40	176	181	216	SP... 140512	P0501300	XT20S40	📦
184052000	SCS 45040-4D	45,0	40	180	185	220	SP... 140512	P0501300	XT20S40	📦
184052100	SCS 46040-4D	46,0	40	184	189	224	SP... 140512	P0501300	XT20S40	📦
184052200	SCS 47040-4D	47,0	40	188	193	228	SP... 140512	P0501300	XT20S40	📦
184052300	SCS 48040-4D	48,0	40	192	197	232	SP... 140512	P0501300	XT20S40	📦
184052400	SCS 49040-4D	49,0	40	196	201	236	SP... 140512	P0501300	XT20S40	📦
184052500	SCS 50040-4D	50,0	40	200	205	240	SP... 140512	P0501300	XT20S40	📦

📦 Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

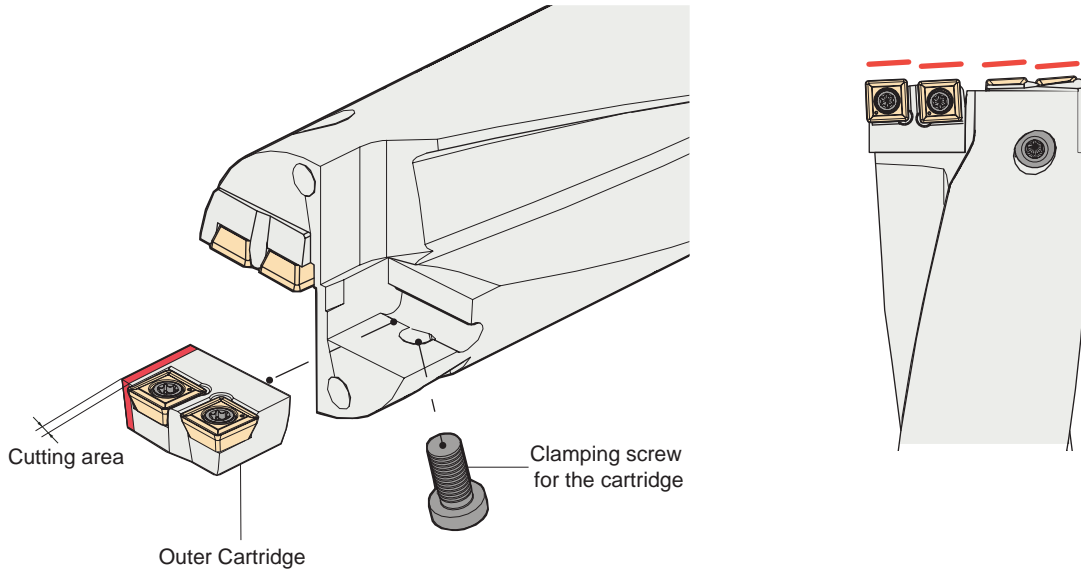
B
Drilling
Indexable Insert Drill
Jet Drill
Integrex Drill
Vortex Drill
Trepanning Drill
Solid Carbide Drill
Inserts
Spare Parts
Technical Data

SCC - Cartridge Type Drilling Tool | Ferramenta | Herramienta

SCC - Size Adaptable Cartridge (5mm)

- Unlock the clamping screw of the outer cartridge and move out the cartridge from the body.
- Cut off the outer cartridge's inside contacted part after calculation of the diameter that you want to drill.
- Slick the rough corner surface of the cut cartridge.
- Adhere closely the cartridge to the body not to make chink and fix it with the clamping screw firmly.

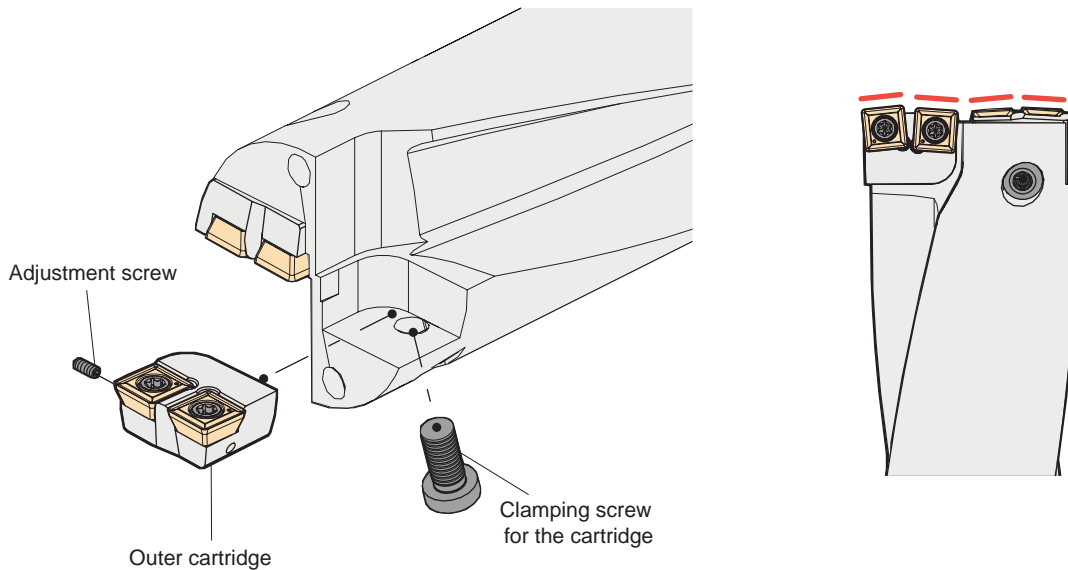
Note: The performance of the drill it's better with this type of cartridge.



SCC - Size Adjustment Cartridge (1mm)

- Unlock the clamping screw of the outer cartridge and move out the cartridge from the body.
- Adjust the length of the outer cartridge to the diameter that you want to drill.
- Adjustment within 6 mm by exchangeable cartridge on the same drill body.

Note: This type of drill will be replaced by the size adaptable cartridge type of drill (5mm) when this will be sold out.



B

Drilling

Indexable
Insert Drill

Jet Drill

Integrex
Drill

Vortex Drill

Trepanning
Drill

Solid
Carbide Drill

Inserts

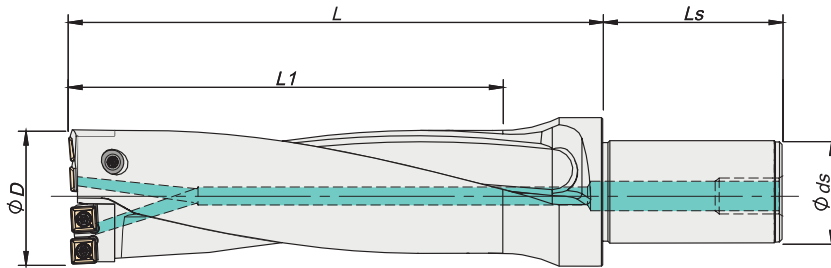
Spare
Parts

Technical
Data

SCC 3D

Cartridge Type (Double Insert) Drilling Tool | Ferramenta | Herramienta

Size Adaptable Cartridge (5mm)



Øds	Ls	BP / SP
40	70	PT-1/4

Order Code	Reference	Dimensions (mm)				Cartridge	Insert	Screw	Torx Key	Stock
		ØD	Øds	L1	L					
184231800	SCC 505540-3D	50-55	40	165	205	SCC 050055-I/O	SP... 090408	P0350903	XT15S35	○
184231900	SCC 556040-3D	55-60	40	180	220	SCC 055060-I/O	SP... 090408	P0350903	XT15S35	○
184232000	SCC 606540-3D	60-65	40	195	235	SCC 060065-I/O	SP... 110408	P0401200	XT15S35	○
184232100	SCC 657040-3D	65-70	40	210	250	SCC 065070-I/O	SP... 110408	P0401200	XT15S35	○
184232200	SCC 707540-3D	70-75	40	225	265	SCC 070075-I/O	SP... 110408	P0401200	XT15S35	○
184232300	SCC 758040-3D	75-80	40	240	278	SCC 075080-I/O	SP... 140512	P0501300	XT20S40	○

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

B

Drilling

Indexable Insert Drill

Jet Drill

Integrex Drill

Vortex Drill

Trepanning Drill

Solid Carbide Drill

Inserts

Spare Parts

Technical Data



PAG B - 42



PAG B - 45



PAG B - 52



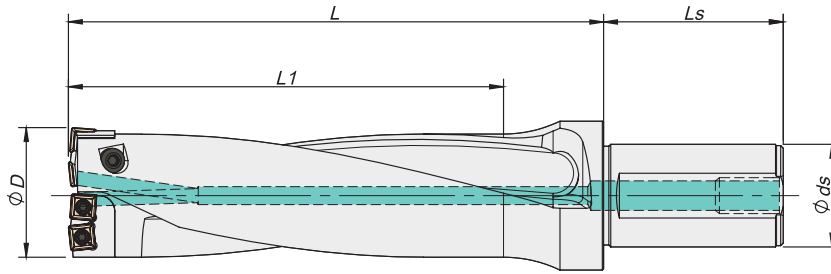
PAG B - 59

B - 19

SCC 3D

Cartridge Type (Double Insert) Drilling Tool | Ferramenta | Herramienta

Size Adjustment Cartridge (1mm)



Øds	Ls	BP / SP
40	70	PT-1/4

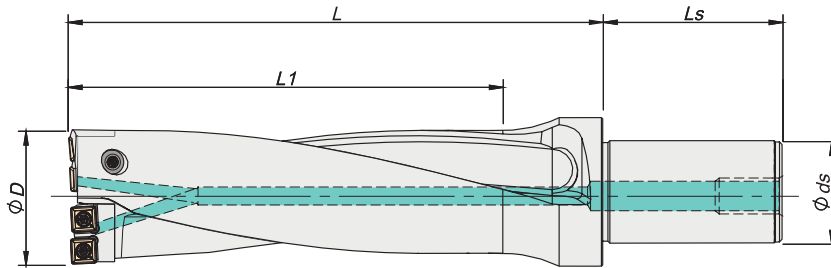
Order Code	Reference	Dimensions (mm)				Cartridge	Insert	Screw	Torx Key	Stock
		ØD	Øds	L1	L					
184052600	SCC 505140-3D	50-51	40	165	205	CISP 5055 / COSP 5051	SP... 090408	P0350903	XT15S35	○
184052700	SCC 515240-3D	51-52	40	165	205	CISP 5055 / COSP 5152	SP... 090408	P0350903	XT15S35	○
184052800	SCC 525340-3D	52-53	40	165	205	CISP 5055 / COSP 5253	SP... 090408	P0350903	XT15S35	○
184052900	SCC 535440-3D	53-54	40	165	205	CISP 5055 / COSP 5354	SP... 090408	P0350903	XT15S35	○
184053000	SCC 545540-3D	54-55	40	165	205	CISP 5055 / COSP 5455	SP... 090408	P0350903	XT15S35	○
184053100	SCC 555640-3D	55-56	40	180	220	CISP 5560 / COSP 5556	SP... 090408	P0350903	XT15S35	○
184053200	SCC 565740-3D	56-57	40	180	220	CISP 5560 / COSP 5657	SP... 090408	P0350903	XT15S35	○
184053300	SCC 575840-3D	57-58	40	180	220	CISP 5560 / COSP 5758	SP... 090408	P0350903	XT15S35	○
184053400	SCC 585940-3D	58-59	40	180	220	CISP 5560 / COSP 5859	SP... 090408	P0350903	XT15S35	○
184053500	SCC 596040-3D	59-60	40	180	220	CISP 5560 / COSP 5960	SP... 090408	P0350903	XT15S35	○
184053600	SCC 606140-3D	60-61	40	195	235	CISP 6065 / COSP 6061	SP... 110408	P0401200	XT15S35	○
184053700	SCC 616240-3D	61-62	40	195	235	CISP 6065 / COSP 6162	SP... 110408	P0401200	XT15S35	○
184053800	SCC 626340-3D	62-63	40	195	235	CISP 6065 / COSP 6263	SP... 110408	P0401200	XT15S35	○
184053900	SCC 636440-3D	63-64	40	195	235	CISP 6065 / COSP 6364	SP... 110408	P0401200	XT15S35	○
184054000	SCC 646540-3D	64-65	40	195	235	CISP 6065 / COSP 6465	SP... 110408	P0401200	XT15S35	○
184054100	SCC 656640-3D	65-66	40	210	250	CISP 6570 / COSP 6566	SP... 110408	P0401200	XT15S35	○
184054200	SCC 666740-3D	66-67	40	210	250	CISP 6570 / COSP 6667	SP... 110408	P0401200	XT15S35	○
184054300	SCC 676840-3D	67-68	40	210	250	CISP 6570 / COSP 6768	SP... 110408	P0401200	XT15S35	○
184054400	SCC 686940-3D	68-69	40	210	250	CISP 6570 / COSP 6869	SP... 110408	P0401200	XT15S35	○
184054500	SCC 697040-3D	69-70	40	210	250	CISP 6570 / COSP 6970	SP... 110408	P0401200	XT15S35	○
184054600	SCC 707140-3D	70-71	40	225	265	CISP 7075 / COSP 7071	SP... 110408	P0401200	XT15S35	○
184054700	SCC 717240-3D	71-72	40	225	265	CISP 7075 / COSP 7172	SP... 110408	P0401200	XT15S35	○
184054800	SCC 727340-3D	72-73	40	225	265	CISP 7075 / COSP 7273	SP... 110408	P0401200	XT15S35	○
184054900	SCC 737440-3D	73-74	40	225	265	CISP 7075 / COSP 7374	SP... 110408	P0401200	XT15S35	○
184055000	SCC 747540-3D	74-75	40	225	265	CISP 7075 / COSP 7475	SP... 110408	P0401200	XT15S35	○
184055100	SCC 757640-3D	75-76	40	240	280	CISP 7580 / COSP 7576	SP... 140512	P0501300	XT20S40	○
184055200	SCC 767740-3D	76-77	40	240	280	CISP 7580 / COSP 7677	SP... 140512	P0501300	XT20S40	○
184055300	SCC 777840-3D	77-78	40	240	280	CISP 7580 / COSP 7778	SP... 140512	P0501300	XT20S40	○
184055400	SCC 787940-3D	78-79	40	240	280	CISP 7580 / COSP 7879	SP... 140512	P0501300	XT20S40	○
184055500	SCC 798040-3D	79-80	40	240	280	CISP 7580 / COSP 7980	SP... 140512	P0501300	XT20S40	○

Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

SCC 4D

Cartridge Type (Double Insert) Drilling Tool | Ferramenta | Herramienta

Size Adaptable Cartridge (5mm)



Øds	Ls	BP / SP
40	70	PT-1/4

Order Code	Reference	Dimensions (mm)				Cartridge	Insert	Screw	Torx Key	Stock
		ØD	Øds	L1	L					
184232400	SCC 505540-4D	50-55	40	220	260	SCC 050055-I/O	SP... 090408	P0350903	XT15S35	○
184232500	SCC 556040-4D	55-60	40	240	280	SCC 055060-I/O	SP... 090408	P0350903	XT15S35	○
184232600	SCC 606540-4D	60-65	40	260	300	SCC 060065-I/O	SP... 110408	P0401200	XT15S35	○
184232700	SCC 657040-4D	65-70	40	280	320	SCC 065070-I/O	SP... 110408	P0401200	XT15S35	○
184232800	SCC 707540-4D	70-75	40	300	340	SCC 070075-I/O	SP... 110408	P0401200	XT15S35	○
184232900	SCC 758040-4D	75-80	40	320	358	SCC 075080-I/O	SP... 140512	P0501300	XT20S40	○

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

B

Drilling

Indexable Insert Drill

Jet Drill

Integrex Drill

Vortex Drill

Trepanning Drill

Solid Carbide Drill

Inserts

Spare Parts

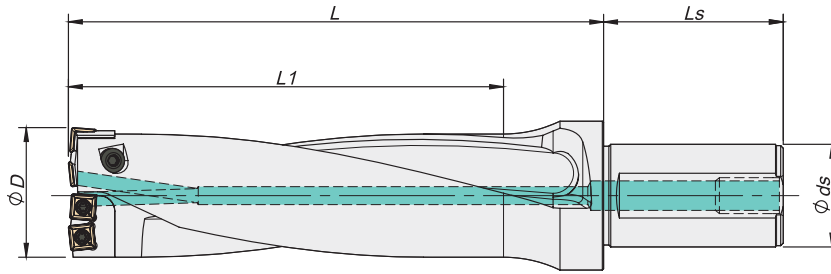
Technical Data



SCC 4D

Cartridge Type (Double Insert) Drilling Tool | Ferramenta | Herramienta

Size Adjustment Cartridge (1mm)



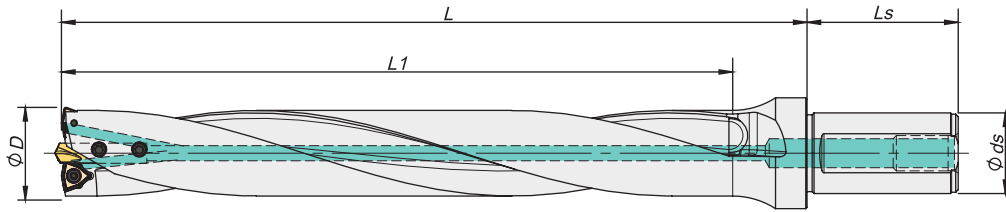
Øds	Ls	BP / SP
40	70	PT-1/4

- B
- Drilling
- Indexable Insert Drill
- Jet Drill
- Integrex Drill
- Vortex Drill
- Trepanning Drill
- Solid Carbide Drill
- Inserts
- Spare Parts

Order Code	Reference	Dimensions (mm)				Cartridge	Insert	Screw	Torx Key	Stock
		ØD	Øds	L1	L					
184055600	SCC 505140-4D	50-51	40	215	255	CISP 5055 / COSP 5051	SP... 090408	P0350903	XT15S35	○
184055700	SCC 515240-4D	51-52	40	215	255	CISP 5055 / COSP 5152	SP... 090408	P0350903	XT15S35	○
184055800	SCC 525340-4D	52-53	40	215	255	CISP 5055 / COSP 5253	SP... 090408	P0350903	XT15S35	○
184055900	SCC 535440-4D	53-54	40	215	255	CISP 5055 / COSP 5354	SP... 090408	P0350903	XT15S35	○
184056000	SCC 545540-4D	54-55	40	215	255	CISP 5055 / COSP 5455	SP... 090408	P0350903	XT15S35	○
184056100	SCC 555640-4D	55-56	40	235	275	CISP 5560 / COSP 5556	SP... 090408	P0350903	XT15S35	○
184056200	SCC 565740-4D	56-57	40	235	275	CISP 5560 / COSP 5657	SP... 090408	P0350903	XT15S35	○
184056300	SCC 575840-4D	57-58	40	235	275	CISP 5560 / COSP 5758	SP... 090408	P0350903	XT15S35	○
184056400	SCC 585940-4D	58-59	40	235	275	CISP 5560 / COSP 5859	SP... 090408	P0350903	XT15S35	○
184056500	SCC 596040-4D	59-60	40	235	275	CISP 5560 / COSP 5960	SP... 090408	P0350903	XT15S35	○
184056600	SCC 606140-4D	60-61	40	255	295	CISP 6065 / COSP 6061	SP... 110408	P0401200	XT15S35	○
184056700	SCC 616240-4D	61-62	40	255	295	CISP 6065 / COSP 6162	SP... 110408	P0401200	XT15S35	○
184056800	SCC 626340-4D	62-63	40	255	295	CISP 6065 / COSP 6263	SP... 110408	P0401200	XT15S35	○
184056900	SCC 636440-4D	63-64	40	255	295	CISP 6065 / COSP 6364	SP... 110408	P0401200	XT15S35	○
184057000	SCC 646540-4D	64-65	40	255	295	CISP 6065 / COSP 6465	SP... 110408	P0401200	XT15S35	○
184057100	SCC 656640-4D	65-66	40	275	315	CISP 6570 / COSP 6566	SP... 110408	P0401200	XT15S35	○
184057200	SCC 666740-4D	66-67	40	275	315	CISP 6570 / COSP 6667	SP... 110408	P0401200	XT15S35	○
184057300	SCC 676840-4D	67-68	40	275	315	CISP 6570 / COSP 6768	SP... 110408	P0401200	XT15S35	○
184057400	SCC 686940-4D	68-69	40	275	315	CISP 6570 / COSP 6869	SP... 110408	P0401200	XT15S35	○
184057500	SCC 697040-4D	69-70	40	275	315	CISP 6570 / COSP 6970	SP... 110408	P0401200	XT15S35	○
184057600	SCC 707140-4D	70-71	40	295	335	CISP 7075 / COSP 7071	SP... 110408	P0401200	XT15S35	○
184057700	SCC 717240-4D	71-72	40	295	335	CISP 7075 / COSP 7172	SP... 110408	P0401200	XT15S35	○
184057800	SCC 727340-4D	72-73	40	295	335	CISP 7075 / COSP 7273	SP... 110408	P0401200	XT15S35	○
184057900	SCC 737440-4D	73-74	40	295	335	CISP 7075 / COSP 7374	SP... 110408	P0401200	XT15S35	○
184058000	SCC 747540-4D	74-75	40	295	335	CISP 7075 / COSP 7475	SP... 110408	P0401200	XT15S35	○
184058100	SCC 757640-4D	75-76	40	315	355	CISP 7580 / COSP 7576	SP... 140512	P0501300	XT20S40	○
184058200	SCC 767740-4D	76-77	40	315	355	CISP 7580 / COSP 7677	SP... 140512	P0501300	XT20S40	○
184058300	SCC 777840-4D	77-78	40	315	355	CISP 7580 / COSP 7778	SP... 140512	P0501300	XT20S40	○
184058400	SCC 787940-4D	78-79	40	315	355	CISP 7580 / COSP 7879	SP... 140512	P0501300	XT20S40	○
184058500	SCC 798040-4D	79-80	40	315	355	CISP 7580 / COSP 7980	SP... 140512	P0501300	XT20S40	○

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

DHS 5D Drilling Tool | Ferramenta | Herramienta



New version / Standard version *

Øds	Ls	BP / SP
32	60 / 70	PT-1/4

Order Code	Reference	Dimensions (mm)				Insert	Order separately			Stock
		ØD	Øds	L1	L		Screw	Torx Key	Pilot Drill	
184058600	DHS 002532-5D	25	32	150	180	WC... 030204	P0220500	XT07	MDP 3006	○
184058700	DHS 002632-5D	26	32	150	180	WC... 040204	P0250503	XT08	MDP 3006	○
184058800	DHS 002732-5D	27	32	150	180	WC... 040204	P0250503	XT08	MDP 3006	○
184058900	DHS 002832-5D	28	32	150	180	WC... 040204	P0250503	XT08	MDP 3006	○
184059000	DHS 002932-5D	29	32	150	180	WC... 040204	P0250503	XT08	MDP 3006	○
184059100	DHS 003032-5D	30	32	150	180	WC... 040204	P0250503	XT08	MDP 3006	○
184059200	DHS 003132-5D	31	32	175	205	WC... 050308	P0300701	XT08	MDP 3508	○
184059300	DHS 003232-5D	32	32	175	205	WC... 050308	P0300701	XT08	MDP 3508	○
184059400	DHS 003332-5D	33	32	175	205	WC... 050308	P0300701	XT08	MDP 3508	○
184059500	DHS 003432-5D	34	32	175	205	WC... 050308	P0300701	XT08	MDP 3508	○
184059600	DHS 003532-5D	35	32	175	205	WC... 050308	P0300701	XT08	MDP 3508	○
184059700	DHS 003632-5D	36	32	200	230	WC... 050308	P0300701	XT08	MDP 3508	○
184059800	DHS 003732-5D	37	32	200	230	WC... 050308	P0300701	XT08	MDP 3508	○
184059900	DHS 003832-5D	38	32	200	230	WC... 050308	P0300701	XT08	MDP 3508	○
184060000	DHS 003932-5D	39	32	200	230	WC... 050308	P0300701	XT08	MDP 3508	○
184060100	DHS 004032-5D	40	32	200	230	WC... 050308	P0300701	XT08	MDP 3508	○

* The new version Drill will replace the standard version when this type will be sold out.

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Note: Please see Page B - 63 for setting pilot drill.



PAG B - 42



PAG B - 45



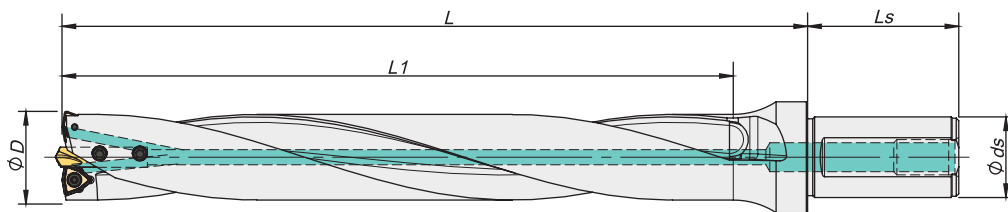
PAG B - 52



PAG B - 63

B - 23




















DHS 8D Drilling Tool | Ferramenta | Herramienta



New version / Standard version *

Øds	Ls	BP / SP
32	60 / 70	PT-1/4

Order separately

Order Code	Reference	Dimensions (mm)				Insert	Screw	Torx Key	Pilot Drill	Stock
		ØD	Øds	L1	L					
184062100	DHS 002532-8D	25	32	220	250	WC... 030204	P0220500	XT07	MDP 3006	
184062200	DHS 002632-8D	26	32	220	250	WC... 040204	P0250503	XT08	MDP 3006	
184062300	DHS 002732-8D	27	32	220	250	WC... 040204	P0250503	XT08	MDP 3006	
184062400	DHS 002832-8D	28	32	220	250	WC... 040204	P0250503	XT08	MDP 3006	
184062500	DHS 002932-8D	29	32	220	250	WC... 040204	P0250503	XT08	MDP 3006	
184062600	DHS 003032-8D	30	32	220	250	WC... 040204	P0250503	XT08	MDP 3006	
184062700	DHS 003132-8D	31	32	260	290	WC... 050308	P0300701	XT08	MDP 3508	
184062800	DHS 003232-8D	32	32	260	290	WC... 050308	P0300701	XT08	MDP 3508	
184062900	DHS 003332-8D	33	32	260	290	WC... 050308	P0300701	XT08	MDP 3508	
184063000	DHS 003432-8D	34	32	260	290	WC... 050308	P0300701	XT08	MDP 3508	
184063100	DHS 003532-8D	35	32	260	290	WC... 050308	P0300701	XT08	MDP 3508	
184063200	DHS 003632-8D	36	32	300	330	WC... 050308	P0300701	XT08	MDP 3508	
184063300	DHS 003732-8D	37	32	300	330	WC... 050308	P0300701	XT08	MDP 3508	
184063400	DHS 003832-8D	38	32	300	330	WC... 050308	P0300701	XT08	MDP 3508	
184063500	DHS 003932-8D	39	32	300	330	WC... 050308	P0300701	XT08	MDP 3508	
184063600	DHS 004032-8D	40	32	300	330	WC... 050308	P0300701	XT08	MDP 3508	

* The new version Drill will replace the standard version when this type will be sold out.

 Stock items / Itens de stock  Available under request / Disponibilidade sob consulta / Disponible bajo consulta

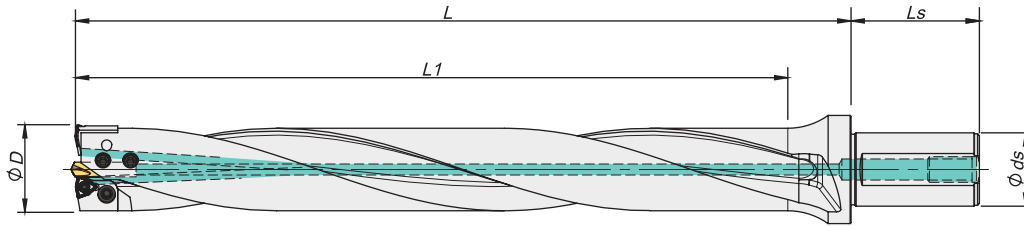
Note: Please see Page B - 63 for setting pilot drill.

- B
- Drilling
- Indexable Insert Drill
- Jet Drill
- Integrex Drill
- Vortex Drill
- Trepanning Drill
- Solid Carbide Drill
- Inserts
- Spare Parts
- Technical Data

DHC 5D

Cartridge Type (Single & Double Insert)

Drilling Tool
Ferramenta | Herramienta



New version / Standard version *

Øds	Ls	BP / SP
40	70 / 80	PT-1/4

Order Code	Reference	Dimensions (mm)				Cartridge	Insert	Order separately			Stock
		ØD	Øds	L1	L			Screw	Torx Key	Pilot Drill	
184192500	DHC 004140-5D	41	40	225	260	CWC 041045-I / CWC 000041-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184192600	DHC 004240-5D	42	40	225	260	CWC 041045-I / CWC 000042-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184192700	DHC 004340-5D	43	40	225	260	CWC 041045-I / CWC 000043-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184192800	DHC 004440-5D	44	40	225	260	CWC 041045-I / CWC 000044-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184192900	DHC 004540-5D	45	40	225	260	CWC 041045-I / CWC 000045-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184193000	DHC 004640-5D	46	40	250	285	CWC 046050-I / CWC 000046-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184193100	DHC 004740-5D	47	40	250	285	CWC 046050-I / CWC 000047-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184193200	DHC 004840-5D	48	40	250	285	CWC 046050-I / CWC 000048-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184193300	DHC 004940-5D	49	40	250	285	CWC 046050-I / CWC 000049-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184193400	DHC 005040-5D	50	40	250	285	CWC 046050-I / CWC 000050-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184193500	DHC 005140-5D	51	40	275	310	CWC 051055-I / CWC 000051-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184193600	DHC 005240-5D	52	40	275	310	CWC 051055-I / CWC 000052-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184193700	DHC 005340-5D	53	40	275	310	CWC 051055-I / CWC 000053-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184193800	DHC 005440-5D	54	40	275	310	CWC 051055-I / CWC 000054-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184193900	DHC 005540-5D	55	40	275	310	CWC 051055-I / CWC 000055-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184194000	DHC 005640-5D	56	40	300	335	CWC 056059-I / CWC 000056-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184194100	DHC 005740-5D	57	40	300	335	CWC 056059-I / CWC 000057-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184194200	DHC 005840-5D	58	40	300	335	CWC 056059-I / CWC 000058-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184194300	DHC 005940-5D	59	40	300	335	CWC 056059-I / CWC 000059-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184065600	DHC 606540-5D**	60-65	40	325	360	MDC 060065-I/O	WC... 050308	P0300701	XT08	MDP 3812	○
184065700	DHC 657040-5D**	65-70	40	350	385	MDC 065070-I/O	WC... 050308	P0300701	XT08	MDP 3812	○
184065800	DHC 707540-5D**	70-75	40	375	410	MDC 070075-I/O	WC... 050308	P0300701	XT08	MDP 3812	○
184065900	DHC 758040-5D**	75-80	40	400	435	MDC 075080-I/O	WC... 06T308	P0350903	XT15S35	MDP 4516	○

* The new version Drill will replace the standard version when this type will be sold out.

** 2 inserts per cartridge.

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Note: Please see Page B - 63 for setting pilot drill.



PAG B - 42



PAG B - 45



PAG B - 52



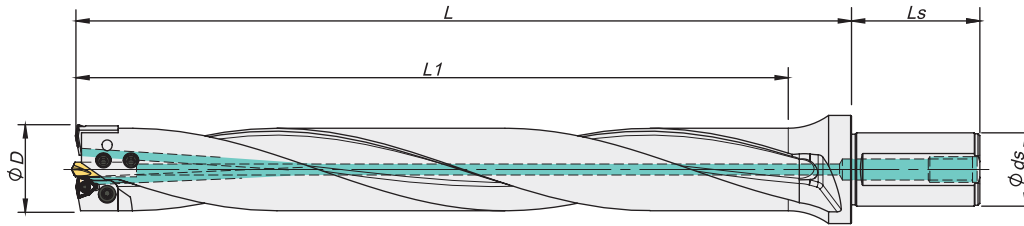
PAG B - 63

B - 25

DHC 8D

Cartridge Type (Single & Double Insert)

Drilling Tool
Ferramenta | Herramienta



New version / Standard version *

Øds	Ls	BP / SP
40	70 / 80	PT-1/4

B

Drilling

Indexable
Insert Drill

Jet Drill

Integrex
Drill

Vortex Drill

Trepanning
Drill

Solid
Carbide Drill

Inserts

Spare
Parts

Technical
Data

Order Code	Reference	Dimensions (mm)				Cartridge	Insert	Order separately			Stock
		ØD	Øds	L1	L			Screw	Torx Key	Pilot Drill	
184194400	DHC 004140-8D	41	40	340	375	CWC 041045-I / CWC 000041-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184194500	DHC 004240-8D	42	40	340	375	CWC 041045-I / CWC 000042-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184194600	DHC 004340-8D	43	40	340	375	CWC 041045-I / CWC 000043-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184194700	DHC 004440-8D	44	40	340	375	CWC 041045-I / CWC 000044-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184194800	DHC 004540-8D	45	40	340	375	CWC 041045-I / CWC 000045-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184194900	DHC 004640-8D	46	40	380	415	CWC 046050-I / CWC 000046-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184195000	DHC 004740-8D	47	40	380	415	CWC 046050-I / CWC 000047-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184195100	DHC 004840-8D	48	40	380	415	CWC 046050-I / CWC 000048-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184195200	DHC 004940-8D	49	40	380	415	CWC 046050-I / CWC 000049-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184195300	DHC 005040-8D	50	40	380	415	CWC 046050-I / CWC 000050-O	WC... 06T308	P0350903	XT15S35	MDP 3510	○
184195400	DHC 005140-8D	51	40	420	455	CWC 051055-I / CWC 000051-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184195500	DHC 005240-8D	52	40	420	455	CWC 051055-I / CWC 000052-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184195600	DHC 005340-8D	53	40	420	455	CWC 051055-I / CWC 000053-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184195700	DHC 005440-8D	54	40	420	455	CWC 051055-I / CWC 000054-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184195800	DHC 005540-8D	55	40	420	455	CWC 051055-I / CWC 000055-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184195900	DHC 005640-8D	56	40	460	495	CWC 056059-I / CWC 000056-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184196000	DHC 005740-8D	57	40	460	495	CWC 056059-I / CWC 000057-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184196100	DHC 005840-8D	58	40	460	495	CWC 056059-I / CWC 000058-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184196200	DHC 005940-8D	59	40	460	495	CWC 056059-I / CWC 000059-O	WC... 080408	P0401101	XT15S35	MDP 3812	○
184066000	DHC 606540-8D**	60-65	40	520	555	MDC 060065-I/O	WC... 050308	P0300701	XT08	MDP 3812	○
184066100	DHC 657040-8D**	65-70	40	560	595	MDC 065070-I/O	WC... 050308	P0300701	XT08	MDP 3812	○
184066200	DHC 707540-8D**	70-75	40	600	635	MDC 070075-I/O	WC... 050308	P0300701	XT08	MDP 3812	○
184066300	DHC 758040-8D**	75-80	40	640	675	MDC 075080-I/O	WC... 06T308	P0350903	XT15S35	MDP 4516	○

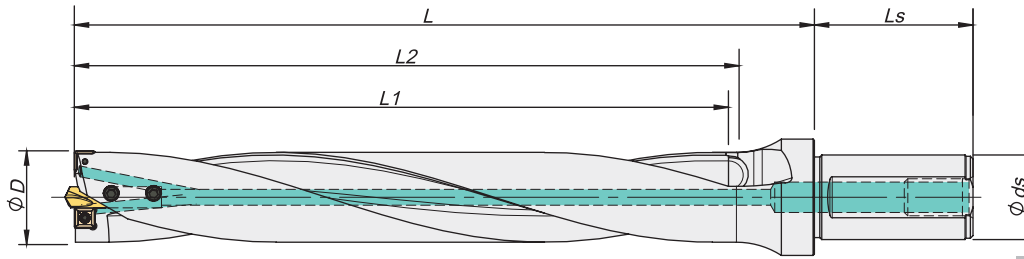
* The new version Drill will replace the standard version when this type will be sold out.

** 2 inserts per cartridge.

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Note: Please see Page B - 63 for setting pilot drill.

TFD 6D Drilling Tool | Ferramenta | Herramienta



Øds	Ls	BP / SP
25	56	PT-1/8
32	60	PT-1/4

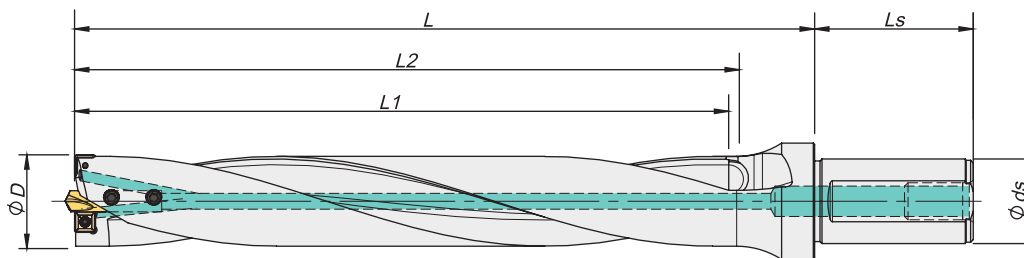
Order Code	Reference	Dimensions (mm)					Insert	Order separately			Stock
		ØD	Øds	L1	L2	L		Screw	Torx Key	Pilot Drill	
184154300	TFD 18025-6D	18,0	25	108	112	142	SP... 050204	P0200500	XT06	MDP 2006	○
184154400	TFD 18525-6D	18,5	25	111	115	145	SP... 050204	P0200500	XT06	MDP 2006	○
184154500	TFD 19025-6D	19,0	25	114	118	148	SP... 050204	P0200500	XT06	MDP 2006	○
184154600	TFD 19525-6D	19,5	25	117	121	151	SP... 050204	P0200500	XT06	MDP 2006	○
184154700	TFD 20025-6D	20,0	25	120	124	154	SP... 060204	P0220500	XT07	MDP 2006	○
184154800	TFD 20525-6D	20,5	25	123	127	157	SP... 060204	P0220500	XT07	MDP 2006	○
184154900	TFD 21025-6D	21,0	25	126	130	160	SP... 060204	P0220500	XT07	MDP 2006	○
184155000	TFD 21525-6D	21,5	25	129	133	163	SP... 060204	P0220500	XT07	MDP 2006	○
184155100	TFD 22025-6D	22,0	25	132	136	166	SP... 060204	P0220500	XT07	MDP 2006	○
184155200	TFD 22525-6D	22,5	25	135	139	169	SP... 060204	P0220500	XT07	MDP 2006	○
184155300	TFD 23025-6D	23,0	25	138	142	172	SP... 060204	P0220500	XT07	MDP 2006	○
184155400	TFD 23525-6D	23,5	25	141	145	175	SP... 060204	P0220500	XT07	MDP 2006	○
184155500	TFD 24025-6D	24,0	25	144	148	178	SP... 060204	P0220500	XT07	MDP 2006	○
184155600	TFD 24525-6D	24,5	25	147	151	181	SP... 060204	P0220500	XT07	MDP 2006	○
184155700	TFD 25025-6D	25,0	25	150	154	184	SP... 060204	P0220500	XT07	MDP 2006	○
184155800	TFD 25532-6D	25,5	32	153	157	192	SP... 07T308	P0250704	XT08	MDP 2508	○
184155900	TFD 26032-6D	26,0	32	156	160	195	SP... 07T308	P0250704	XT08	MDP 2508	○
184156000	TFD 26532-6D	26,5	32	159	163	198	SP... 07T308	P0250704	XT08	MDP 2508	○
184156100	TFD 27032-6D	27,0	32	162	166	201	SP... 07T308	P0250704	XT08	MDP 2508	○
184156200	TFD 27532-6D	27,5	32	165	169	204	SP... 07T308	P0250704	XT08	MDP 2508	○
184156300	TFD 28032-6D	28,0	32	168	172	207	SP... 07T308	P0250704	XT08	MDP 2508	○
184156400	TFD 28532-6D	28,5	32	171	175	210	SP... 07T308	P0250704	XT08	MDP 2508	○
184156500	TFD 29032-6D	29,0	32	174	178	213	SP... 07T308	P0250704	XT08	MDP 2508	○
184156600	TFD 29532-6D	29,5	32	177	181	216	SP... 07T308	P0250704	XT08	MDP 2508	○
184156700	TFD 30032-6D	30,0	32	180	184	219	SP... 07T308	P0250704	XT08	MDP 2508	○

Integrex Drills are supplied without pilot drills. Please order them separately.

📦 Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Note: Please see Page B - 63 for setting pilot drill.

TFD 8D Drilling Tool | Ferramenta | Herramienta



Øds	Ls	BP / SP
25	56	PT-1/8
32	60	PT-1/4

B
Drilling
Indexable Insert Drill
Jet Drill
Integrex Drill
Vortex Drill
Trepanning Drill
Solid Carbide Drill
Inserts
Spare Parts
Technical Data

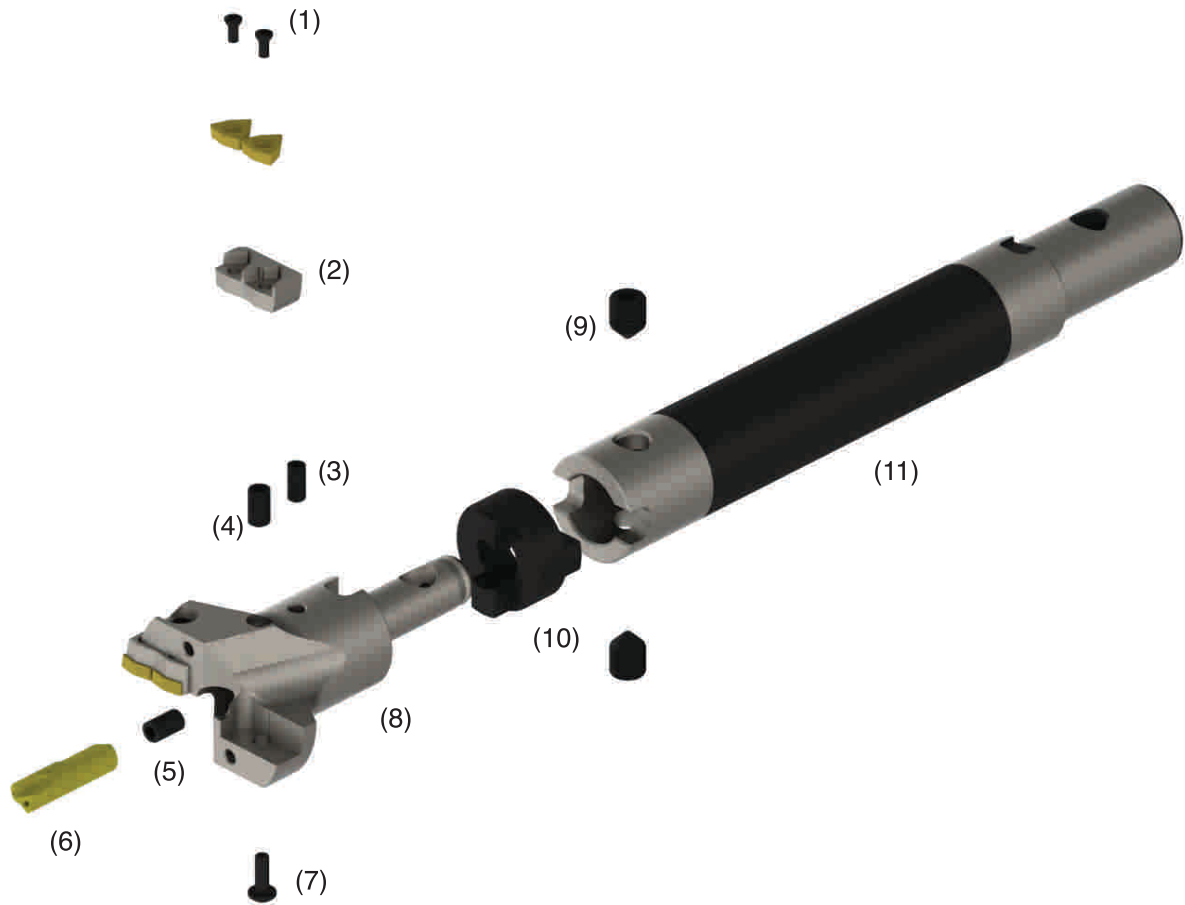
Order Code	Reference	Dimensions (mm)					Insert	Order separately			Stock
		ØD	Øds	L1	L2	L		Screw	Torx Key	Pilot Drill	
184151800	TFD 18025-8D	18,0	25	144	149	179	SP... 050204	P0200500	XT06	MDP 2006	○
184151900	TFD 18525-8D	18,5	25	148	153	183	SP... 050204	P0200500	XT06	MDP 2006	○
184152000	TFD 19025-8D	19,0	25	152	157	187	SP... 050204	P0200500	XT06	MDP 2006	○
184152100	TFD 19525-8D	19,5	25	156	161	191	SP... 050204	P0200500	XT06	MDP 2006	○
184152200	TFD 20025-8D	20,0	25	160	165	195	SP... 060204	P0220500	XT07	MDP 2006	○
184152300	TFD 20525-8D	20,5	25	164	169	199	SP... 060204	P0220500	XT07	MDP 2006	○
184152400	TFD 21025-8D	21,0	25	168	173	203	SP... 060204	P0220500	XT07	MDP 2006	○
184152500	TFD 21525-8D	21,5	25	172	177	207	SP... 060204	P0220500	XT07	MDP 2006	○
184151200	TFD 22025-8D	22,0	25	176	181	211	SP... 060204	P0220500	XT07	MDP 2006	○
184152700	TFD 22525-8D	22,5	25	180	185	215	SP... 060204	P0220500	XT07	MDP 2006	○
184152800	TFD 23025-8D	23,0	25	184	189	219	SP... 060204	P0220500	XT07	MDP 2006	○
184152900	TFD 23525-8D	23,5	25	188	193	223	SP... 060204	P0220500	XT07	MDP 2006	○
184153000	TFD 24025-8D	24,0	25	192	197	227	SP... 060204	P0220500	XT07	MDP 2006	○
184153100	TFD 24525-8D	24,5	25	196	201	231	SP... 060204	P0220500	XT07	MDP 2006	○
184151300	TFD 25025-8D	25,0	25	200	205	235	SP... 060204	P0220500	XT07	MDP 2006	○
184153300	TFD 25532-8D	25,5	32	204	209	244	SP... 07T308	P0250704	XT08	MDP 2508	○
184153400	TFD 26032-8D	26,0	32	208	213	248	SP... 07T308	P0250704	XT08	MDP 2508	○
184153500	TFD 26532-8D	26,5	32	212	217	252	SP... 07T308	P0250704	XT08	MDP 2508	○
184153600	TFD 27032-8D	27,0	32	216	221	256	SP... 07T308	P0250704	XT08	MDP 2508	○
184153700	TFD 27532-8D	27,5	32	220	225	260	SP... 07T308	P0250704	XT08	MDP 2508	○
184153800	TFD 28032-8D	28,0	32	224	229	264	SP... 07T308	P0250704	XT08	MDP 2508	○
184153900	TFD 28532-8D	28,5	32	228	233	268	SP... 07T308	P0250704	XT08	MDP 2508	○
184154000	TFD 29032-8D	29,0	32	232	237	272	SP... 07T308	P0250704	XT08	MDP 2508	○
184154100	TFD 29532-8D	29,5	32	236	241	276	SP... 07T308	P0250704	XT08	MDP 2508	○
184154200	TFD 30032-8D	30,0	32	240	245	280	SP... 07T308	P0250704	XT08	MDP 2508	○

Integrex Drills are supplied without pilot drills. Please order them separately.

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Note: Please see Page B - 63 for setting pilot drill.

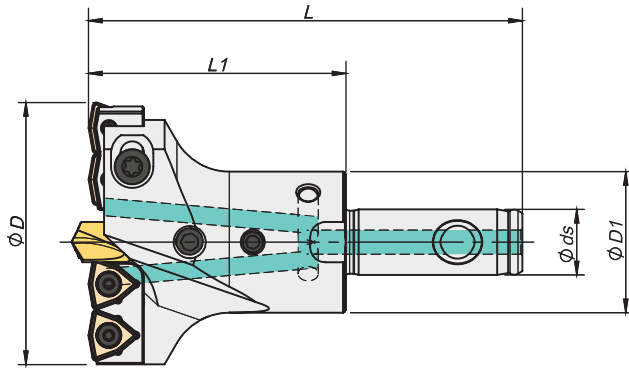
Vortex Drill Drilling Tool | Ferramenta | Herramienta



- (1) - Insert Screw
- (2) - Cartridge Inner / Outer
- (3) - Fixing Screw for Pilot Drill
- (4) - Clamping Bolt for Pilot Drill
- (5) - Adjustment Screw for Pilot Drill
- (6) - Pilot Drill
- (7) - Screw for cartridge
- (8) - Vortex Drill
- (9) - Fixation Screw
- (10) - Drive Ring
- (11) - MSD Shank or MDE Extension



MDO 10D Drilling Tool | Ferramenta | Herramienta

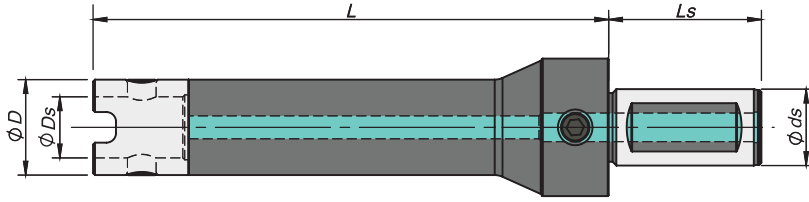


- B
- Drilling
- Indexable Insert Drill
- Jet Drill
- Integrex Drill
- Vortex Drill
- Trepanning Drill
- Solid Carbide Drill
- Inserts
- Spare Parts
- Technical Data

Order Code	Reference	Dimensions (mm)					Cartridge	Insert	Screw	Torx Key	Pilot Drill	Stock
		ØD	Øds	L1	L	ØD1						
184031000	MDO 04505013	45-50	13	50	85	28	MDC 045050-I/O	WC... 030204	P0220500	XT07	MDP 3510	Ⓢ
184031100	MDO 05005513	50-55	13	50	85	28	MDC 050055-I/O	WC... 030204	P0220500	XT07	MDP 3510	Ⓢ
184031200	MDO 05506016	55-60	16	60	100	32	MDC 055060-I/O	WC... 040204	P0250503	XT08	MDP 3812	Ⓢ
184031300	MDO 06006516	60-65	16	60	100	32	MDC 060065-I/O	WC... 050308	P0300701	XT08	MDP 3812	Ⓢ
184031500	MDO 06507016	65-70	16	60	100	32	MDC 065070-I/O	WC... 050308	P0300701	XT08	MDP 3812	Ⓢ
184032400	MDO 07007522	70-75	22	70	115	40	MDC 070075-I/O	WC... 050308	P0300701	XT08	MDP 3812	Ⓢ
184032500	MDO 07508022	75-80	22	70	115	40	MDC 075080-I/O	WC... 06T308	P0350903	XT15S35	MDP 4516	Ⓢ
184032600	MDO 08008522	80-85	22	70	115	40	MDC 080085-I/O	WC... 06T308	P0350903	XT15S35	MDP 4516	Ⓢ
184032700	MDO 08509027	85-90	27	70	120	48	MDC 085090-I/O	WC... 06T308	P0350903	XT15S35	MDP 4516	Ⓢ
184032800	MDO 09009527	90-95	27	70	120	48	MDC 090095-I/O	WC... 06T308	P0350903	XT15S35	MDP 4516	Ⓢ
184032900	MDO 09510027	95-100	27	70	120	48	MDC 095100-I/O	WC... 06T308	P0350903	XT15S35	MDP 4516	Ⓢ
184033000	MDO 10010532	100-105	32	80	130	58	MDC 100105-I/O	WC... 050308	P0300701	XT08	MDP 4520	Ⓢ
184066400	MDO 10511032	105-110	32	80	130	58	MDC 105110-I/O	WC... 06T308	P0350903	XT15S35	MDP 4520	Ⓢ
184066500	MDO 11011532	110-115	32	80	130	58	MDC 110115-I/O	WC... 06T308	P0350903	XT15S35	MDP 4520	Ⓢ
184066600	MDO 11512040	115-120	40	90	145	70	MDC 115120-I/O	WC... 06T308	P0350903	XT15S35	MDP 4520	Ⓢ
184066700	MDO 12012540	120-125	40	90	145	70	MDC 120125-I/O	WC... 06T308	P0350903	XT15S35	MDP 5625	Ⓢ
184066800	MDO 12513040	125-130	40	90	145	70	MDC 125130-I/O	WC... 06T308	P0350903	XT15S35	MDP 5625	Ⓢ
184066900	MDO 13013540	130-135	40	90	145	70	MDC 130135-I/O	WC... 06T308	P0350903	XT15S35	MDP 5625	Ⓢ
184067000	MDO 13514040	135-140	40	90	145	70	MDC 135140-I/O	WC... 06T308	P0350903	XT15S35	MDP 5625	Ⓢ
184067100	MDO 14015050	140-150	50	100	160	80	MDC 140150-I/O	WC... 080408	P0401101	XT15S35	MDP 5625	Ⓢ
184067200	MDO 15016050	150-160	50	100	160	80	MDC 150160-I/O	WC... 080408	P0401101	XT15S35	MDP 5625	Ⓢ
184067300	MDO 16017050	160-170	50	100	160	80	MDC 160170-I/O	WC... 080408	P0401101	XT15S35	MDP 6830	Ⓢ
184067400	MDO 17018050	170-180	50	100	160	80	MDC 170180-I/O	WC... 080408	P0401101	XT15S35	MDP 6830	Ⓢ

Ⓢ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

MDS Shank Drilling Tool | Ferramenta | Herramienta



New version / Standard version *

Øds	Ls	BP / SP
32	70	PT-1/4
40	80	PT-1/4
50	80 / 100	PT-1/4

Order separately

Order Code	Reference	Dimensions (mm)				Drive Ring	Stock
		Øds	ØDs	ØD	L		
184121900	MDS 32115130	13	32	28	115	MDR 1028	⊗
184253700	MDS 32200130	13	32	28	200	MDR 1028	⊗
184255400	MDS 32300130	13	32	28	300	MDR 1028	⊗
184122100	MDS 40125160	16	40	32	125	MDR 1032	⊗
184253800	MDS 40200160	16	40	32	200	MDR 1032	⊗
184255500	MDS 40300160	16	40	32	300	MDR 1032	⊗
184122300	MDS 40148220	22	40	40	148	MDR 1240	⊗
184122400	MDS 40200220	22	40	40	200	MDR 1240	⊗
184122500	MDS 40300220	22	40	40	300	MDR 1240	⊗
184122600	MDS 40168270	27	40	48	168	MDR 1248	⊗
184122700	MDS 40300270	27	40	48	300	MDR 1248	⊗
184122800	MDS 40186320	32	40	58	186	MDR 1458	⊗
184122900	MDS 40300320	32	40	58	300	MDR 1458	⊗
184123000	MDS 50186400	40	50	70	186	MDR 1470	⊗
184123100	MDS 50300400	40	50	70	300	MDR 1470	⊗
184123200	MDS 50184500	50	50	80	184	MDR 1680	⊗
184123300	MDS 50300500	50	50	80	300	MDR 1680	⊗

* The new version Drill will replace the standard version when this type will be sold out.

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta



PAG B - 42



PAG B - 45



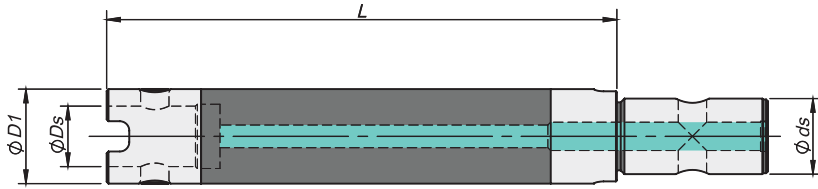
PAG B - 52



PAG B - 67

B - 31

MDE Extension Drilling Tool | Ferramenta | Herramienta

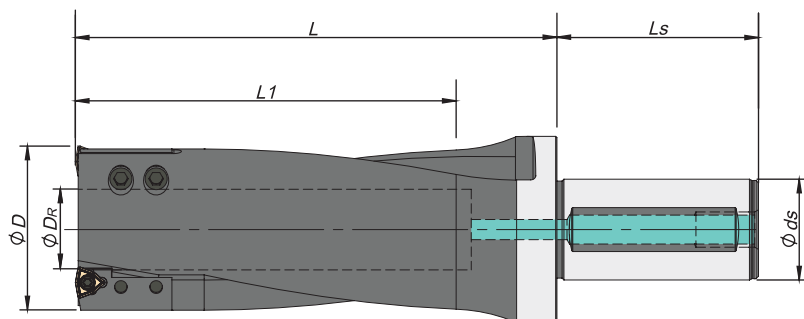


B
Drilling
Indexable Insert Drill
Jet Drill
Integrex Drill
Vortex Drill
Trepanning Drill
Solid Carbide Drill
Inserts
Spare Parts
Technical Data

Order Code	Reference	Dimensions (mm)				Order separately	Stock
		Øds	ØDs	ØD1	L	Drive Ring	
184023500	MDE 13115280	13	13	28	115	MDR 1028	⊗
184023600	MDE 13150280	13	13	28	150	MDR 1028	⊗
184023700	MDE 13200280	13	13	28	200	MDR 1028	⊗
184021800	MDE 13300280	13	13	28	300	MDR 1028	⊗
184023800	MDE 16115320	16	16	32	115	MDR 1032	⊗
184021900	MDE 16200320	16	16	32	200	MDR 1032	⊗
184023900	MDE 16300320	16	16	32	300	MDR 1032	⊗
184024000	MDE 22113400	22	22	40	113	MDR 1240	⊗
184024100	MDE 22200400	22	22	40	200	MDR 1240	⊗
184024200	MDE 22300400	22	22	40	300	MDR 1240	⊗
184024300	MDE 27113480	27	27	48	113	MDR 1248	⊗
184024400	MDE 27200480	27	27	48	200	MDR 1248	⊗
184024500	MDE 27300480	27	27	48	300	MDR 1248	⊗
184024600	MDE 32186580	32	32	58	186	MDR 1458	⊗
184024700	MDE 32300580	32	32	58	300	MDR 1458	⊗
184024800	MDE 40186700	40	40	70	186	MDR 1470	⊗
184024900	MDE 40300700	40	40	70	300	MDR 1470	⊗
184025000	MDE 40500700	40	40	70	500	MDR 1470	⊗
184025100	MDE 50204800	50	50	80	204	MDR 1680	⊗
184025200	MDE 50300800	50	50	80	300	MDR 1680	⊗
184025300	MDE 50500800	50	50	80	500	MDR 1680	⊗

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

PND 2D Drilling Tool | Ferramenta | Herramienta



Øds	Ls	BP / SP
32	70	PT-1/4
40	80	PT-1/4
50	100	PT-1/4

Order Code	Reference	Dimensions (mm)					Cartridge	Insert	Screw	Torx Key	Stock
		ØD	ØDr	Øds	L1	L					
184067500	PND 04032-2D	40,0	10,0	32	100	140	PND 040055-I/O	WC... 050308	P0300701	XT08	○
184067600	PND 04540-2D	45,0	15,0	40	100	130	PND 040055-I/O	WC... 050308	P0300701	XT08	○
184067700	PND 05040-2D	50,0	21,0	40	120	150	PND 040055-I/O	WC... 050308	P0300701	XT08	○
184067800	PND 05540-2D	55,0	26,0	40	120	150	PND 040055-I/O	WC... 050308	P0300701	XT08	○
184067900	PND 06040-2D	60,0	24,5	40	150	190	PND 060110-I/O	WC... 06T308	P0350903	XT15S35	○
184068000	PND 06540-2D	65,0	30,5	40	150	190	PND 060110-I/O	WC... 06T308	P0350903	XT15S35	○
184068100	PND 07040-2D	70,0	35,5	40	170	210	PND 060110-I/O	WC... 06T308	P0350903	XT15S35	○
184068200	PND 07540-2D	75,0	40,5	40	170	210	PND 060110-I/O	WC... 06T308	P0350903	XT15S35	○
184068300	PND 08040-2D	80,0	45,5	40	190	230	PND 060110-I/O	WC... 06T308	P0350903	XT15S35	○
184068400	PND 08550-2D	85,0	50,5	50	190	230	PND 060110-I/O	WC... 06T308	P0350903	XT15S35	○
184068500	PND 09050-2D	90,0	55,0	50	210	250	PND 060110-I/O	WC... 06T308	P0350903	XT15S35	○
184068600	PND 09550-2D	95,0	60,0	50	210	250	PND 060110-I/O	WC... 06T308	P0350903	XT15S35	○
184068700	PND 10050-2D	100,0	66,0	50	250	290	PND 060110-I/O	WC... 06T308	P0350903	XT15S35	○
184068800	PND 11050-2D	110,0	76,0	50	250	290	PND 060110-I/O	WC... 06T308	P0350903	XT15S35	○

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

- B
- Drilling
- Indexable Insert Drill
- Jet Drill
- Integrex Drill
- Vortex Drill
- Trepanning Drill
- Solid Carbide Drill
- Inserts
- Spare Parts
- Technical Data



PAG B - 42



PAG B - 45



PAG B - 52

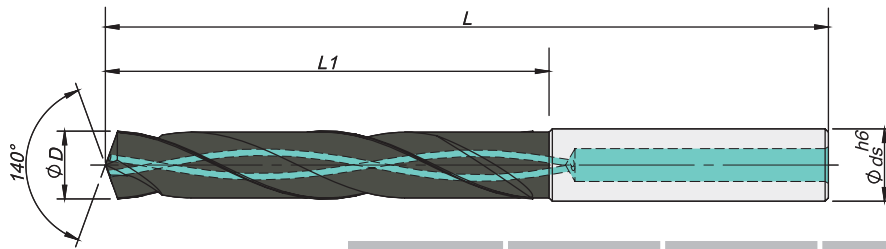


PAG B - 71

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HMDH SC 3D Drilling Tool | Ferramenta | Herramienta



IT8~9
IT class

Drill Dia. ØD	ØD3,0	3,0<ØD 6,0	6,0<ØD 10,0	10,0<ØD 18,0	18,0<ØD 20
Tolerances	+0,002	+0,004	+0,006	+0,007	+0,008
	+0,012	+0,016	+0,021	+0,025	+0,028

Order Code	Reference	Dimensions (mm)				Z	Stock	Order Code	Reference	Dimensions (mm)				Z	Stock
		ØD	Øds	L1	L					ØD	Øds	L1	L		
214157000	HMDH303D 030062020	3,0	6,0	20	62	2	⊗	214159900	HMDH303D 060066028	6,0	6,0	28	66	2	⊗
214157100	HMDH303D 031062020	3,1	6,0	20	62	2	⊗	214160000	HMDH303D 061079034	6,1	8,0	34	79	2	⊗
214157200	HMDH303D 032062020	3,2	6,0	20	62	2	⊗	214160100	HMDH303D 062079034	6,2	8,0	34	79	2	⊗
214032300	HMDH303D 033062020	3,3	6,0	20	62	2	⊗	214160200	HMDH303D 063079034	6,3	8,0	34	79	2	⊗
214157300	HMDH303D 034062020	3,4	6,0	20	62	2	⊗	214160300	HMDH303D 064079034	6,4	8,0	34	79	2	⊗
214157400	HMDH303D 035062020	3,5	6,0	20	62	2	⊗	214160400	HMDH303D 065079034	6,5	8,0	34	79	2	⊗
214157500	HMDH303D 036062020	3,6	6,0	20	62	2	⊗	214160500	HMDH303D 066079034	6,6	8,0	34	79	2	⊗
214157600	HMDH303D 037062020	3,7	6,0	20	62	2	⊗	214160600	HMDH303D 067079034	6,7	8,0	34	79	2	⊗
214157700	HMDH303D 038066024	3,8	6,0	24	66	2	⊗	211134000	HMDH303D 068079034	6,8	8,0	34	79	2	⊗
214157800	HMDH303D 039066024	3,9	6,0	24	66	2	⊗	214160700	HMDH303D 069079034	6,9	8,0	34	79	2	⊗
214157900	HMDH303D 040066024	4,0	6,0	24	66	2	⊗	214160800	HMDH303D 070079034	7,0	8,0	34	79	2	⊗
214158000	HMDH303D 041066024	4,1	6,0	24	66	2	⊗	214160900	HMDH303D 071079041	7,1	8,0	41	79	2	⊗
214158100	HMDH303D 042066024	4,2	6,0	24	66	2	⊗	214161000	HMDH303D 072079041	7,2	8,0	41	79	2	⊗
214158200	HMDH303D 043066024	4,3	6,0	24	66	2	⊗	214161100	HMDH303D 073079041	7,3	8,0	41	79	2	⊗
214158300	HMDH303D 044066024	4,4	6,0	24	66	2	⊗	214161200	HMDH303D 074079041	7,4	8,0	41	79	2	⊗
214158400	HMDH303D 045066024	4,5	6,0	24	66	2	⊗	214161300	HMDH303D 075079041	7,5	8,0	41	79	2	⊗
214158500	HMDH303D 046066024	4,6	6,0	24	66	2	⊗	214161400	HMDH303D 076079041	7,6	8,0	41	79	2	⊗
214158600	HMDH303D 047066024	4,7	6,0	24	66	2	⊗	214161500	HMDH303D 077079041	7,7	8,0	41	79	2	⊗
214158700	HMDH303D 048066028	4,8	6,0	28	66	2	⊗	214161600	HMDH303D 078079041	7,8	8,0	41	79	2	⊗
214158800	HMDH303D 049066028	4,9	6,0	28	66	2	⊗	214161700	HMDH303D 079079041	7,9	8,0	41	79	2	⊗
214158900	HMDH303D 050066028	5,0	6,0	28	66	2	⊗	211082000	HMDH303D 080079041	8,0	8,0	41	79	2	⊗
214159000	HMDH303D 051066028	5,1	6,0	28	66	2	⊗	214161800	HMDH303D 081089047	8,1	10,0	47	89	2	⊗
214159100	HMDH303D 052066028	5,2	6,0	28	66	2	⊗	214161900	HMDH303D 082089047	8,2	10,0	47	89	2	⊗
214159200	HMDH303D 053066028	5,3	6,0	28	66	2	⊗	214162000	HMDH303D 083089047	8,3	10,0	47	89	2	⊗
214159300	HMDH303D 054066028	5,4	6,0	28	66	2	⊗	214162100	HMDH303D 084089047	8,4	10,0	47	89	2	⊗
214159400	HMDH303D 055066028	5,5	6,0	28	66	2	⊗	211050700	HMDH303D 085089047	8,5	10,0	47	89	2	⊗
214159500	HMDH303D 056066028	5,6	6,0	28	66	2	⊗	214162200	HMDH303D 086089047	8,6	10,0	47	89	2	⊗
214159600	HMDH303D 057066028	5,7	6,0	28	66	2	⊗	214162300	HMDH303D 087089047	8,7	10,0	47	89	2	⊗
214159700	HMDH303D 058066028	5,8	6,0	28	66	2	⊗	214162400	HMDH303D 088089047	8,8	10,0	47	89	2	⊗
214159800	HMDH303D 059066028	5,9	6,0	28	66	2	⊗	214162500	HMDH303D 089089047	8,9	10,0	47	89	2	⊗

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

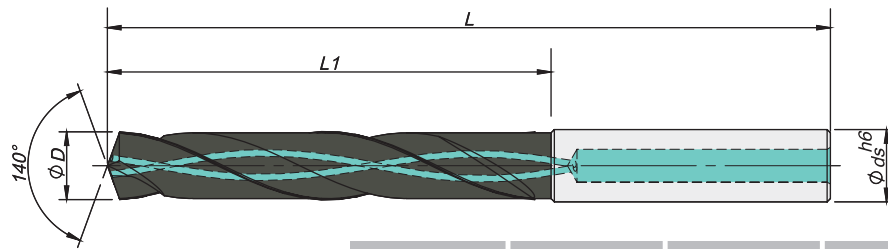
HMDH SC 3D Drilling Tool | Ferramenta | Herramienta

Order Code	Reference	Dimensions (mm)				Z	Stock
		ØD	Øds	L1	L		
214162600	HMDH303D 090089047	9,0	10,0	47	89	2	⊗
214162700	HMDH303D 091089047	9,1	10,0	47	89	2	⊗
214162800	HMDH303D 092089047	9,2	10,0	47	89	2	⊗
214162900	HMDH303D 093089047	9,3	10,0	47	89	2	⊗
214163000	HMDH303D 094089047	9,4	10,0	47	89	2	⊗
214163100	HMDH303D 095089047	9,5	10,0	47	89	2	⊗
214163200	HMDH303D 096089047	9,6	10,0	47	89	2	⊗
214163300	HMDH303D 097089047	9,7	10,0	47	89	2	⊗
214163400	HMDH303D 098089047	9,8	10,0	47	89	2	⊗
214163500	HMDH303D 099089047	9,9	10,0	47	89	2	⊗
214024300	HMDH303D 100089047	10,0	10,0	47	89	2	⊗
214163600	HMDH303D 101102055	10,1	12,0	55	102	2	⊗
214163700	HMDH303D 102102055	10,2	12,0	55	102	2	⊗
214163800	HMDH303D 103102055	10,3	12,0	55	102	2	⊗
214163900	HMDH303D 104102055	10,4	12,0	55	102	2	⊗
214164000	HMDH303D 105102055	10,5	12,0	55	102	2	⊗
214164100	HMDH303D 106102055	10,6	12,0	55	102	2	⊗
214164200	HMDH303D 107102055	10,7	12,0	55	102	2	⊗
214164300	HMDH303D 108102055	10,8	12,0	55	102	2	⊗
214164400	HMDH303D 109102055	10,9	12,0	55	102	2	⊗
214164500	HMDH303D 110102055	11,0	12,0	55	102	2	⊗
211067700	HMDH303D 111102055	11,1	12,0	55	102	2	⊗
214164600	HMDH303D 112102055	11,2	12,0	55	102	2	⊗
214164700	HMDH303D 113102055	11,3	12,0	55	102	2	⊗
214164800	HMDH303D 114102055	11,4	12,0	55	102	2	⊗
214164900	HMDH303D 115102055	11,5	12,0	55	102	2	⊗
214165000	HMDH303D 116102055	11,6	12,0	55	102	2	⊗
214165100	HMDH303D 117102055	11,7	12,0	55	102	2	⊗
214165200	HMDH303D 118102055	11,8	12,0	55	102	2	⊗
214165300	HMDH303D 119102055	11,9	12,0	55	102	2	⊗
211135800	HMDH303D 120102055	12,0	12,0	55	102	2	⊗
214165400	HMDH303D 125107060	12,5	14,0	60	107	2	⊗
214165500	HMDH303D 130107060	13,0	14,0	60	107	2	⊗
214165600	HMDH303D 135107060	13,5	14,0	60	107	2	⊗
211135900	HMDH303D 140107060	14,0	14,0	60	107	2	⊗
214165700	HMDH303D 145115065	14,5	16,0	65	115	2	⊗
214165800	HMDH303D 150115065	15,0	16,0	65	115	2	⊗
211127200	HMDH303D 155115065	15,5	16,0	65	115	2	⊗

Order Code	Reference	Dimensions (mm)				Z	Stock
		ØD	Øds	L1	L		
211081900	HMDH303D 160115065	16,0	16,0	65	115	2	⊗
214165900	HMDH303D 165123073	16,5	18,0	73	123	2	⊗
214166000	HMDH303D 170123073	17,0	18,0	73	123	2	⊗
214166100	HMDH303D 175123073	17,5	18,0	73	123	2	⊗
214166200	HMDH303D 180123073	18,0	18,0	73	123	2	⊗
214166300	HMDH303D 185131079	18,5	20,0	79	131	2	⊗
214166400	HMDH303D 190131079	19,0	20,0	79	131	2	⊗
214166500	HMDH303D 195131079	19,5	20,0	79	131	2	⊗
214166600	HMDH303D 200131070	20,0	20,0	79	131	2	⊗

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

HMDH SC 5D Drilling Tool | Ferramenta | Herramienta



IT8-9
IT class

Drill Dia. ØD	ØD3,0	3,0<ØD 6,0	6,0<ØD 10,0	10,0<ØD 18,0	18,0<ØD 20
Tolerances	+0,002	+0,004	+0,006	+0,007	+0,008
	+0,012	+0,016	+0,021	+0,025	+0,028

Order Code	Reference	Dimensions (mm)				Z	Stock	Order Code	Reference	Dimensions (mm)				Z	Stock
		ØD	Øds	L1	L					ØD	Øds	L1	L		
214167300	HMDH305D 030066028	3,0	6,0	28	66	2	⊗	214170200	HMDH305D 060082044	6,0	6,0	44	82	2	⊗
214167400	HMDH305D 031066028	3,1	6,0	28	66	2	⊗	214170300	HMDH305D 061091053	6,1	8,0	53	91	2	⊗
214167500	HMDH305D 032066028	3,2	6,0	28	66	2	⊗	214170400	HMDH305D 062091053	6,2	8,0	53	91	2	⊗
214167600	HMDH305D 033066028	3,3	6,0	28	66	2	⊗	214170500	HMDH305D 063091053	6,3	8,0	53	91	2	⊗
214167700	HMDH305D 034066028	3,4	6,0	28	66	2	⊗	214170600	HMDH305D 064091053	6,4	8,0	53	91	2	⊗
214167800	HMDH305D 035066028	3,5	6,0	28	66	2	⊗	214170700	HMDH305D 065091053	6,5	8,0	53	91	2	⊗
214167900	HMDH305D 036066028	3,6	6,0	28	66	2	⊗	214170800	HMDH305D 066091053	6,6	8,0	53	91	2	⊗
214168000	HMDH305D 037066028	3,7	6,0	28	66	2	⊗	214170900	HMDH305D 067091053	6,7	8,0	53	91	2	⊗
211133900	HMDH305D 038074036	3,8	6,0	36	74	2	⊗	211052000	HMDH305D 068091053	6,8	8,0	53	91	2	⊗
214168100	HMDH305D 039074036	3,9	6,0	36	74	2	⊗	214171000	HMDH305D 069091053	6,9	8,0	53	91	2	⊗
214168200	HMDH305D 040074036	4,0	6,0	36	74	2	⊗	214171100	HMDH305D 070091053	7,0	8,0	53	91	2	⊗
214168300	HMDH305D 041074036	4,1	6,0	36	74	2	⊗	214171200	HMDH305D 071091053	7,1	8,0	53	91	2	⊗
214168400	HMDH305D 042074036	4,2	6,0	36	74	2	⊗	214171300	HMDH305D 072091053	7,2	8,0	53	91	2	⊗
214168500	HMDH305D 043074036	4,3	6,0	36	74	2	⊗	214171400	HMDH305D 073091053	7,3	8,0	53	91	2	⊗
214168600	HMDH305D 044074036	4,4	6,0	36	74	2	⊗	211123500	HMDH305D 074091053	7,4	8,0	53	91	2	⊗
214168700	HMDH305D 045074036	4,5	6,0	36	74	2	⊗	214171500	HMDH305D 075091053	7,5	8,0	53	91	2	⊗
214168800	HMDH305D 046074036	4,6	6,0	36	74	2	⊗	214171600	HMDH305D 076091053	7,6	8,0	53	91	2	⊗
214168900	HMDH305D 047074036	4,7	6,0	36	74	2	⊗	214171700	HMDH305D 077091053	7,7	8,0	53	91	2	⊗
214169000	HMDH305D 048082044	4,8	6,0	44	82	2	⊗	211123600	HMDH305D 078091053	7,8	8,0	53	91	2	⊗
214169100	HMDH305D 049082044	4,9	6,0	44	82	2	⊗	214171800	HMDH305D 079091053	7,9	8,0	53	91	2	⊗
214169200	HMDH305D 050082044	5,0	6,0	44	82	2	⊗	211064500	HMDH305D 080091053	8,0	8,0	53	91	2	⊗
214169300	HMDH305D 051082044	5,1	6,0	44	82	2	⊗	214171900	HMDH305D 081103061	8,1	10,0	61	103	2	⊗
214169400	HMDH305D 052082044	5,2	6,0	44	82	2	⊗	214172000	HMDH305D 082103061	8,2	10,0	61	103	2	⊗
214169500	HMDH305D 053082044	5,3	6,0	44	82	2	⊗	214172100	HMDH305D 083103061	8,3	10,0	61	103	2	⊗
214169600	HMDH305D 054082044	5,4	6,0	44	82	2	⊗	214172200	HMDH305D 084103061	8,4	10,0	61	103	2	⊗
214169700	HMDH305D 055082044	5,5	6,0	44	82	2	⊗	211065000	HMDH305D 085103061	8,5	10,0	61	103	2	⊗
214169800	HMDH305D 056082044	5,6	6,0	44	82	2	⊗	214172300	HMDH305D 086103061	8,6	10,0	61	103	2	⊗
214169900	HMDH305D 057082044	5,7	6,0	44	82	2	⊗	214172400	HMDH305D 087103061	8,7	10,0	61	103	2	⊗
214170000	HMDH305D 058082044	5,8	6,0	44	82	2	⊗	214172500	HMDH305D 088103061	8,8	10,0	61	103	2	⊗
214170100	HMDH305D 059082044	5,9	6,0	44	82	2	⊗	214172600	HMDH305D 089103061	8,9	10,0	61	103	2	⊗

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

B

Drilling

Indexable
Insert Drill

Jet Drill

Integrex
Drill

Vortex Drill

Trepanning
Drill

Solid
Carbide Drill

Inserts

Spare
Parts

Technical
Data

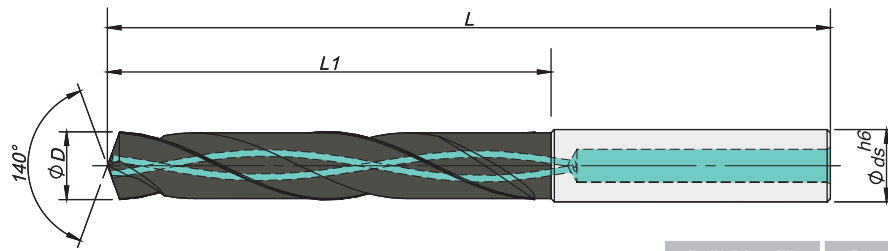
HMDH SC 5D Drilling Tool | Ferramenta | Herramienta

Order Code	Reference	Dimensions (mm)				Z	Stock
		ØD	Øds	L1	L		
211127100	HMDH305D 090103061	9,0	10,0	61	103	2	☺
214172700	HMDH305D 091103061	9,1	10,0	61	103	2	☺
214172800	HMDH305D 092103061	9,2	10,0	61	103	2	☺
214172900	HMDH305D 093103061	9,3	10,0	61	103	2	☺
214173000	HMDH305D 094103061	9,4	10,0	61	103	2	☺
214173100	HMDH305D 095103061	9,5	10,0	61	103	2	☺
214173200	HMDH305D 096103061	9,6	10,0	61	103	2	☺
214173300	HMDH305D 097103061	9,7	10,0	61	103	2	☺
214173400	HMDH305D 098103061	9,8	10,0	61	103	2	☺
214173500	HMDH305D 099103061	9,9	10,0	61	103	2	☺
214024400	HMDH305D 100103061	10,0	10,0	61	103	2	☺
214173600	HMDH305D 101118071	10,1	12,0	71	118	2	☺
211051900	HMDH305D 102118071	10,2	12,0	71	118	2	☺
214173700	HMDH305D 103118071	10,3	12,0	71	118	2	☺
214173800	HMDH305D 104118071	10,4	12,0	71	118	2	☺
211064600	HMDH305D 105118071	10,5	12,0	71	118	2	☺
214173900	HMDH305D 106118071	10,6	12,0	71	118	2	☺
214174000	HMDH305D 107118071	10,7	12,0	71	118	2	☺
214174100	HMDH305D 108118071	10,8	12,0	71	118	2	☺
214174200	HMDH305D 109118071	10,9	12,0	71	118	2	☺
211051800	HMDH305D 110118071	11,0	12,0	71	118	2	☺
214174300	HMDH305D 111118071	11,1	12,0	71	118	2	☺
214174400	HMDH305D 112118071	11,2	12,0	71	118	2	☺
214174500	HMDH305D 113118071	11,3	12,0	71	118	2	☺
214174600	HMDH305D 114118071	11,4	12,0	71	118	2	☺
214174700	HMDH305D 115118071	11,5	12,0	71	118	2	☺
214174800	HMDH305D 116118071	11,6	12,0	71	118	2	☺
214174900	HMDH305D 117118071	11,7	12,0	71	118	2	☺
214175000	HMDH305D 118118071	11,8	12,0	71	118	2	☺
214175100	HMDH305D 119118071	11,9	12,0	71	118	2	☺
211064800	HMDH305D 120118071	12,0	12,0	71	118	2	☺
214175200	HMDH305D 125124077	12,5	14,0	77	124	2	☺
214175300	HMDH305D 130124077	13,0	14,0	77	124	2	☺
214175400	HMDH305D 135124077	13,5	14,0	77	124	2	☺
214175500	HMDH305D 140124077	14,0	14,0	77	124	2	☺
211064900	HMDH305D 145133083	14,5	16,0	83	133	2	☺
214175600	HMDH305D 150133083	15,0	16,0	83	133	2	☺
214175700	HMDH305D 155133083	15,5	16,0	83	133	2	☺

Order Code	Reference	Dimensions (mm)				Z	Stock
		ØD	Øds	L1	L		
214175800	HMDH305D 160133083	16,0	16,0	83	133	2	☺
214175900	HMDH305D 165143093	16,5	18,0	93	143	2	☺
214176000	HMDH305D 170143093	17,0	18,0	93	143	2	☺
214176100	HMDH305D 175143093	17,5	18,0	93	143	2	☺
214176200	HMDH305D 180143093	18,0	18,0	93	143	2	☺
214176300	HMDH305D 185153101	18,5	20,0	101	153	2	☺
214176400	HMDH305D 190153101	19,0	20,0	101	153	2	☺
214176500	HMDH305D 195153101	19,5	20,0	101	153	2	☺
214176600	HMDH305D 200153101	20,0	20,0	101	153	2	☺

☺ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

HMDH SC 8D Drilling Tool | Ferramenta | Herramienta














IT8-9
IT class

Drill Dia. ØD	5,0<ØD 6,0	6,0<ØD 10,0	10,0<ØD 12,0
Tolerances	+0,004	+0,006	+0,007
	+0,016	+0,021	+0,025

Order Code	Reference	Dimensions (mm)				Z	Stock	Order Code	Reference	Dimensions (mm)				Z	Stock
		ØD	Øds	L1	L					ØD	Øds	L1	L		
214179300	HMDH308D 050095057	5,0	6,0	57	95	2	⊗	211068500	HMDH308D 080114076	8,0	8,0	76	114	2	⊗
214179400	HMDH308D 051095057	5,1	6,0	57	95	2	⊗	214182200	HMDH308D 081142087	8,1	10,0	87	142	2	⊗
214179500	HMDH308D 052095057	5,2	6,0	57	95	2	⊗	214182300	HMDH308D 82142087	8,2	10,0	87	142	2	⊗
214179600	HMDH308D 053095057	5,3	6,0	57	95	2	⊗	214182400	HMDH308D 083142087	8,3	10,0	87	142	2	⊗
214179700	HMDH308D 054095057	5,4	6,0	57	95	2	⊗	214182500	HMDH308D 084142087	8,4	10,0	87	142	2	⊗
214179800	HMDH308D 055095057	5,5	6,0	57	95	2	⊗	214182600	HMDH308D 085142087	8,5	10,0	87	142	2	⊗
214179900	HMDH308D 056095057	5,6	6,0	57	95	2	⊗	214182700	HMDH308D 086142087	8,6	10,0	87	142	2	⊗
214180000	HMDH308D 057095057	5,7	6,0	57	95	2	⊗	211068600	HMDH308D 087142087	8,7	10,0	87	142	2	⊗
214180100	HMDH308D 058095057	5,8	6,0	57	95	2	⊗	214182800	HMDH308D 088142087	8,8	10,0	87	142	2	⊗
214180200	HMDH308D 059095057	5,9	6,0	57	95	2	⊗	214182900	HMDH308D 089142087	8,9	10,0	87	142	2	⊗
211135400	HMDH308D 060095057	6,0	6,0	57	95	2	⊗	214183000	HMDH308D 090142087	9,0	10,0	87	142	2	⊗
214180300	HMDH308D 061114076	6,1	8,0	76	114	2	⊗	214183100	HMDH308D 091142095	9,1	10,0	95	142	2	⊗
214180400	HMDH308D 062114076	6,2	8,0	76	114	2	⊗	214183200	HMDH308D 092142095	9,2	10,0	95	142	2	⊗
214180500	HMDH308D 063114076	6,3	8,0	76	114	2	⊗	214183300	HMDH308D 093142095	9,3	10,0	95	142	2	⊗
214180600	HMDH308D 064114076	6,4	8,0	76	114	2	⊗	214183400	HMDH308D 094142095	9,4	10,0	95	142	2	⊗
214180700	HMDH308D 065114076	6,5	8,0	76	114	2	⊗	214183500	HMDH308D 095142095	9,5	10,0	95	142	2	⊗
214180800	HMDH308D 066114076	6,6	8,0	76	114	2	⊗	214183600	HMDH308D 096142095	9,6	10,0	95	142	2	⊗
214180900	HMDH308D 067114076	6,7	8,0	76	114	2	⊗	214183700	HMDH308D 097142095	9,7	10,0	95	142	2	⊗
214181000	HMDH308D 068114076	6,8	8,0	76	114	2	⊗	214019500	HMDH308D 098142095	9,8	10,0	95	142	2	⊗
214181100	HMDH308D 069114076	6,9	8,0	76	114	2	⊗	214183800	HMDH308D 099142095	9,9	10,0	95	142	2	⊗
214181200	HMDH308D 070114076	7,0	8,0	76	114	2	⊗	211068700	HMDH308D 100142095	10,0	10,0	95	142	2	⊗
214181300	HMDH308D 071114076	7,1	8,0	76	114	2	⊗	214183900	HMDH308D 101162114	10,1	12,0	114	162	2	⊗
214181400	HMDH308D 072114076	7,2	8,0	76	114	2	⊗	214184000	HMDH308D 102162114	10,2	12,0	114	162	2	⊗
214181500	HMDH308D 073114076	7,3	8,0	76	114	2	⊗	214184100	HMDH308D 103162114	10,3	12,0	114	162	2	⊗
214181600	HMDH308D 074114076	7,4	8,0	76	114	2	⊗	214184200	HMDH308D 104162114	10,4	12,0	114	162	2	⊗
214181700	HMDH308D 075114076	7,5	8,0	76	114	2	⊗	214184300	HMDH308D 105162114	10,5	12,0	114	162	2	⊗
214181800	HMDH308D 076114076	7,6	8,0	76	114	2	⊗	214184400	HMDH308D 106162114	10,6	12,0	114	162	2	⊗
214181900	HMDH308D 077114076	7,7	8,0	76	114	2	⊗	214184500	HMDH308D 107162114	10,7	12,0	114	162	2	⊗
214182000	HMDH308D 078114076	7,8	8,0	76	114	2	⊗	214184600	HMDH308D 108162114	10,8	12,0	114	162	2	⊗
214182100	HMDH308D 079114076	7,9	8,0	76	114	2	⊗	214184700	HMDH308D 109162114	10,9	12,0	114	162	2	⊗

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

HMDH SC 8D Drilling Tool | Ferramenta | Herramienta

Order Code	Reference	Dimensions (mm)				Z	Stock
		ØD	Øds	L1	L		
214184800	HMDH308D 110162114	11,0	12,0	114	162	2	
214184900	HMDH308D 111162114	11,1	12,0	114	162	2	
214030700	HMDH308D 112162114	11,2	12,0	114	162	2	
214185000	HMDH308D 113162114	11,3	12,0	114	162	2	
214185100	HMDH308D 114162114	11,4	12,0	114	162	2	
214185200	HMDH308D 115162114	11,5	12,0	114	162	2	
214185300	HMDH308D 116162114	11,6	12,0	114	162	2	
214185400	HMDH308D 117162114	11,7	12,0	114	162	2	
214185500	HMDH308D 118162114	11,8	12,0	114	162	2	
214185600	HMDH308D 119162114	11,9	12,0	114	162	2	
211068800	HMDH308D 120162114	12,0	12,0	114	162	2	

 Stock items / Itens de stock  Available under request / Disponibilidade sob consulta / Disponible bajo consulta

B

Drilling

Indexable
Insert Drill

Jet Drill

Integrex
Drill

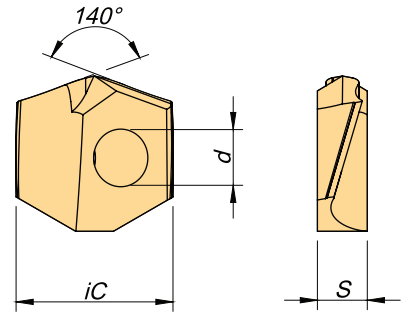
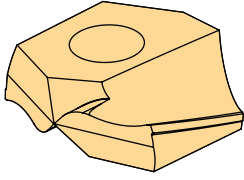
Vortex Drill

Trepanning
DrillSolid
Carbide Drill

Inserts

Spare
PartsTechnical
Data

ISDN Inserts | Pastilhas | Plaquetas



B

Drilling

Indexable Insert Drill

Jet Drill

Integrex Drill

Vortex Drill

Trepanning Drill

Solid Carbide Drill

Inserts

(1) Geometry Code	ISO Ref.	Grades																				Dimensions (mm)						
		P						M				K				N		S			H							
		(2) Grade Code	64	54	68	66	I5	78	86	68	66	78	86	54	68	66	D2	67	I5	10	D6	54	68	66	64	D4	iC	S
2142385	ISDN-120		○					○				○										○				12,00	3,60	3,50
2142386	ISDN-125		○					○				○										○				12,50	3,60	3,50
2142387	ISDN-130		○					○				○										○				13,00	3,60	3,50
2142388	ISDN-135		○					○				○										○				13,50	3,60	3,50
2142389	ISDN-140		○					○				○										○				14,00	4,00	3,50
2142390	ISDN-145		○					○				○										○				14,50	4,00	3,50
2142391	ISDN-150		○					○				○										○				15,00	4,00	3,50
2142392	ISDN-155		○					○				○										○				15,50	4,00	3,50
2142393	ISDN-160		○					○				○										○				16,00	4,50	3,50
2142394	ISDN-165		○					○				○										○				16,50	4,50	3,50
2142395	ISDN-170		○					○				○										○				17,00	4,50	3,50
2142396	ISDN-175		○					○				○										○				17,50	4,50	3,50
2142397	ISDN-180		○					○				○										○				18,00	5,00	4,50
2142398	ISDN-185		○					○				○										○				18,50	5,00	4,50
2142399	ISDN-190		○					○				○										○				19,00	5,00	4,50
2142400	ISDN-195		○					○				○										○				19,50	5,00	4,50
2142401	ISDN-200		○					○				○										○				20,00	5,50	5,50
2142402	ISDN-205		○					○				○										○				20,50	5,50	5,50
2142403	ISDN-210		○					○				○										○				21,00	5,50	5,50
2142404	ISDN-215		○					○				○										○				21,50	5,50	5,50
2142405	ISDN-220		○					○				○										○				22,00	6,00	5,50
2142406	ISDN-225		○					○				○										○				22,50	6,00	5,50
2142407	ISDN-230		○					○				○										○				23,00	6,00	5,50
2142408	ISDN-235		○					○				○										○				23,50	6,00	5,50
2142409	ISDN-240		○					○				○										○				24,00	6,50	5,50
2142410	ISDN-245		○					○				○										○				24,50	6,50	5,50
2142411	ISDN-250		○					○				○										○				25,00	6,50	5,50
2142412	ISDN-255		○					○				○										○				25,50	6,50	5,50
2142413	ISDN-260		○					○				○										○				26,00	7,10	6,50

Note: Other inserts diameter available under request.

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Insert Order Code = (1) Geometry Code + (2) Grade Code

Technical Data

ISDN Inserts | Pastilhas | Plaquetas

(1) Geometry Code	(2) Grade Code	Grades																				Dimensions (mm)						
		P						M				K					N		S						H			
		64	54	68	66	I5	78	86	68	66	78	86	54	68	66	D2	67	I5	10	D6	54	68	66	64	D4	iC	S	d
ISO Ref.	PH6903	PH6910	PH6920	PH6930	PH6740	PH6125	PH6135	PH6920	PH6930	PH6125	PH6135	PH6910	PH6920	PH6930	PH6705	PH6325	PH6740	PH0910	PDP410	PH6910	PH6920	PH6930	PH6903	PBH910				
2142414	ISDN-265	○	○					○				○								○						26,50	7,10	6,50
2142415	ISDN-270	○	○					○				○								○						27,00	7,10	6,50
2142416	ISDN-275	○	○					○				○								○						27,50	7,10	6,50
2142417	ISDN-280	○	○					○				○								○						28,00	7,70	6,50
2142418	ISDN-285	○	○					○				○								○						28,50	7,70	6,50
2142419	ISDN-290	○	○					○				○								○						29,00	7,70	6,50
2142420	ISDN-295	○	○					○				○								○						29,50	7,70	6,50
2142421	ISDN-300	○	○					○				○								○						30,00	8,00	6,50
2142422	ISDN-305	○	○					○				○								○						30,50	8,00	6,50
2142423	ISDN-310	○	○					○				○								○						31,00	8,00	6,50
2142424	ISDN-315	○	○					○				○								○						31,50	8,00	6,50

Note: Other inserts diameter available under request.

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Insert Order Code = (1) Geometry Code + (2) Grade Code

B
Drilling

Indexable
Insert Drill

Jet Drill

Integrex
Drill

Vortex Drill

Trepanning
Drill

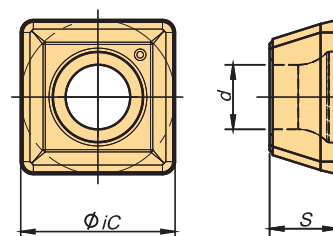
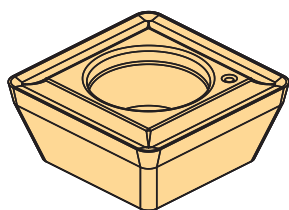
Solid
Carbide Drill

Inserts

Spare
Parts

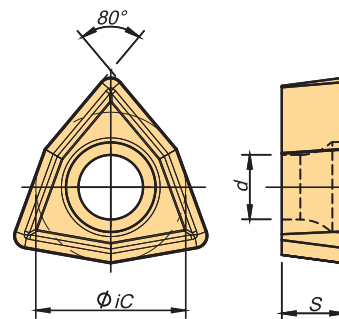
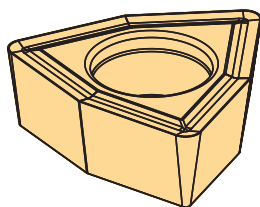
Technical
Data

SPKX Inserts | Pastilhas | Plaquetas



(1) Geometry Code	(2) Grade Code	Grades																		Dimensions (mm)							
		P						M				K				N		S					H				
		64	54	68	66	78	86	I5	68	66	78	86	68	66	I5	D2	67	10	10	D6	54	68	I5	64	D4	iC	S
1111281	SPKX 050204			⊗	⊗	○	○		⊗	⊗										⊗					5,00	2,38	2,20
1111282	SPKX 060204			⊗	⊗	○	○		⊗	⊗									⊗					6,00	2,38	2,55	
1111283	SPKX 07T308			⊗	⊗	○	○		⊗	⊗									⊗					7,94	3,97	2,85	
1111284	SPKX 090408			⊗	⊗	○	○		⊗	⊗									⊗					9,80	4,30	4,10	
1111285	SPKX 110408			⊗	⊗	○	○		⊗	⊗									⊗					11,50	4,80	4,40	
1111286	SPKX 140512			⊗	⊗	○	○		⊗	⊗									⊗					14,30	5,20	5,75	

WCKX Inserts | Pastilhas | Plaquetas



(1) Geometry Code	(2) Grade Code	Grades																		Dimensions (mm)						
		P						M				K				N		S					H			
		64	54	68	66	78	86	I5	68	66	78	86	68	66	I5	D2	67	10	10	D6	54	68	I5	64	D4	iC
1140300	WCKX 02T104			⊗	⊗	○	○		⊗	⊗									⊗					4,76	1,98	2,00
1140276	WCKX 030204			⊗	⊗	○	○		⊗	⊗								⊗					5,56	2,38	2,55	
1140277	WCKX 040204			⊗	⊗	○	○		⊗	⊗								⊗					6,35	2,38	2,85	
1140278	WCKX 050308			⊗	⊗	○	○		⊗	⊗								⊗					7,94	3,18	3,50	
1140279	WCKX 06T308			⊗	⊗	○	○		⊗	⊗								⊗					9,55	3,97	4,10	
1140280	WCKX 080408			⊗	⊗	○	○		⊗	⊗								⊗					12,70	4,76	5,60	

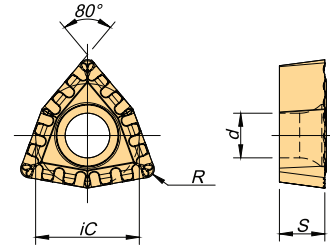
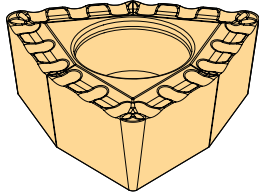
⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Insert Order Code = (1) Geometry Code + (2) Grade Code

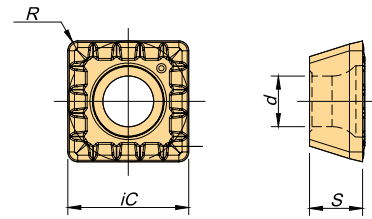
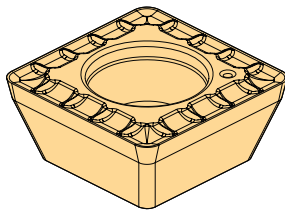
WCKX-LC | SPKX-LC - for low carbon steels

Inserts | Pastilhas | Plaquetas

WCKX-LC



SPKX-LC



(1) Geometry Code	(2) Grade Code	Grades																Dimensions (mm)									
		P						M				K				N					S			H			
		64	54	68	66	I5	78	86	68	66	78	86	68	66	I5	D2	67	10	10	D6	54	68	66	64	D4	iC	S
1142068	WCKX 050308-LC			⊗	⊗				⊗	⊗			⊗	⊗							⊗	⊗			7,94	3,18	3,50
1142069	WCKX 06T308-LC			⊗	⊗				⊗	⊗			⊗	⊗							⊗	⊗			9,55	3,97	4,10
1111968	SPKX 07T308-LC			⊗	⊗				⊗	⊗			⊗	⊗							⊗	⊗			7,94	3,97	2,85
1111967	SPKX 090408-LC			⊗	⊗				⊗	⊗			⊗	⊗							⊗	⊗			9,80	4,30	4,10

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Insert Order Code = (1) Geometry Code + (2) Grade Code

B

Drilling

Indexable
Insert Drill

Jet Drill

Integrex
Drill

Vortex Drill

Trepanning
Drill

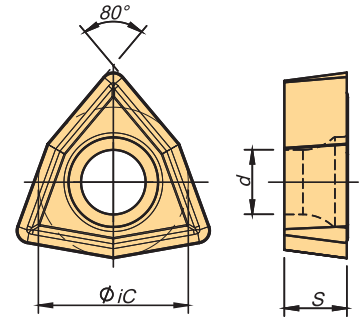
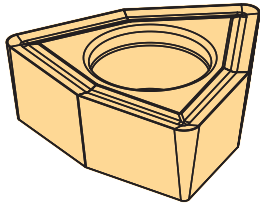
Solid
Carbide Drill

Inserts

Spare
Parts

Technical
Data

WCMX Inserts | Pastilhas | Plaquetas



B

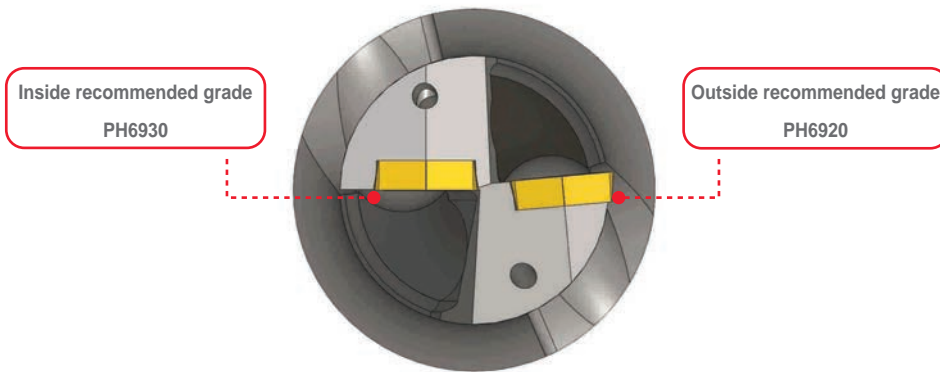
Drilling

	(2) Grade Code	Grades																		Dimensions (mm)								
		P						M				K				N		S					H					
		64	54	68	66	I5	78	86	68	66	78	86	68	66	I5	D2	67	10	10	D6	54	68	66	64	D4	iC	S	d
(1) Geometry Code	ISO Ref.	PH6903	PH6910	PH6920	PH6930	PH6740	PH6125	PH6135	PH6920	PH6930	PH6125	PH6135	PH6920	PH6930	PH6740	PH6705	PH6325	PH0910	PH0910	PDP410	PH6910	PH6920	PH6930	PH6903	PBH910			
1120827	WCMX 030204			○	○				○	○			○	○								○	○			5,56	2,38	2,80
1120829	WCMX 040208			○	○				○	○			○	○								○	○			6,35	2,38	3,10
1120830	WCMX 050308			○	○				○	○			○	○								○	○			7,94	3,18	3,20
1120831	WCMX 06T308			○	○				○	○			○	○								○	○			9,55	3,97	3,70
1120833	WCMX 080412			○	○				○	○			○	○								○	○			12,70	4,76	4,30

Note: Not for TDS / TDC / DHS / DHC program - inserts for other drill systems

⊗ Stock items / Itens de stock ○ Available under request / Disponibilidade sob consulta / Disponible bajo consulta

Insert Order Code = (1) Geometry Code + (2) Grade Code

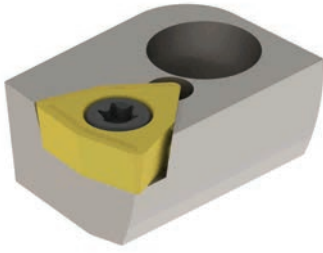




Inserts

Spare Parts

Technical Data

DHC Cartridge



ØD	Inner Cartridge		Outer Cartridge		Insert	Screw	Torx Key	For Drill
	Order Code	Reference	Order Code	Reference				
41	184250300	CWC 041045-I	184226700	CWC 000041-O	WC... 06T308	P0350903	XT15S35	DHC 004140-5D & 8D
42	184250300	CWC 041045-I	184226800	CWC 000042-O	WC... 06T308	P0350903	XT15S35	DHC 004240-5D & 8D
43	184250300	CWC 041045-I	184226900	CWC 000043-O	WC... 06T308	P0350903	XT15S35	DHC 004340-5D & 8D
44	184250300	CWC 041045-I	184227000	CWC 000044-O	WC... 06T308	P0350903	XT15S35	DHC 004440-5D & 8D
45	184250300	CWC 041045-I	184227100	CWC 000045-O	WC... 06T308	P0350903	XT15S35	DHC 004540-5D & 8D
46	184226400	CWC 046050-I	184227200	CWC 000046-O	WC... 06T308	P0350903	XT15S35	DHC 004640-5D & 8D
47	184226400	CWC 046050-I	184227300	CWC 000047-O	WC... 06T308	P0350903	XT15S35	DHC 004740-5D & 8D
48	184226400	CWC 046050-I	184227400	CWC 000048-O	WC... 06T308	P0350903	XT15S35	DHC 004840-5D & 8D
49	184226400	CWC 046050-I	184227500	CWC 000049-O	WC... 06T308	P0350903	XT15S35	DHC 004940-5D & 8D
50	184226400	CWC 046050-I	184227600	CWC 000050-O	WC... 06T308	P0350903	XT15S35	DHC 005040-5D & 8D
51	184226500	CWC 051055-I	184227700	CWC 000051-O	WC... 080408	P0401101	XT15S35	DHC 005140-5D & 8D
52	184226500	CWC 051055-I	184227800	CWC 000052-O	WC... 080408	P0401101	XT15S35	DHC 005240-5D & 8D
53	184226500	CWC 051055-I	184227900	CWC 000053-O	WC... 080408	P0401101	XT15S35	DHC 005340-5D & 8D
54	184226500	CWC 051055-I	184228000	CWC 000054-O	WC... 080408	P0401101	XT15S35	DHC 005440-5D & 8D
55	184226500	CWC 051055-I	184228100	CWC 000055-O	WC... 080408	P0401101	XT15S35	DHC 005540-5D & 8D
56	184226600	CWC 056059-I	184228200	CWC 000056-O	WC... 080408	P0401101	XT15S35	DHC 005640-5D & 8D
57	184226600	CWC 056059-I	184228300	CWC 000057-O	WC... 080408	P0401101	XT15S35	DHC 005740-5D & 8D
58	184226600	CWC 056059-I	184228400	CWC 000058-O	WC... 080408	P0401101	XT15S35	DHC 005840-5D & 8D
59	184226600	CWC 056059-I	184228500	CWC 000059-O	WC... 080408	P0401101	XT15S35	DHC 005940-5D & 8D
60-65	184250600	MDC 060065-I	184252900	MDC 060065-O	WC... 050308	P0300701	XT08	DHC 606540-5D & 8D
65-70	184250700	MDC 065070-I	184253000	MDC 065070-O	WC... 050308	P0300701	XT08	DHC 657040-5D & 8D
70-75	184250800	MDC 070075-I	184063700	MDC 070075-O	WC... 050308	P0300701	XT08	DHC 707540-5D & 8D
75-80	184250900	MDC 075080-I	184063800	MDC 075080-O	WC... 06T308	P0350903	XT15S35	DHC 758040-5D & 8D

B

Drilling

Indexable
Insert Drill

Jet Drill

Integrex
Drill

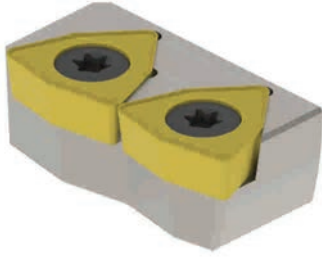
Vortex Drill



Trepanning
DrillSolid
Carbide Drill

Inserts

Spare
PartsTechnical
Data

MDO Cartridge



ØD	Inner Cartridge		Outer Cartridge		Insert	Screw	Torx Key	For Drill
	Order Code	Reference	Order Code	Reference				
45-50	184062000	MDC 045050-I	184252600	MDC 045050-O	WC... 030204	P0220500	XT07	MDO 04505013
50-55	184250400	MDC 050055-I	184252700	MDC 050055-O	WC... 030204	P0220500	XT07	MDO 05005513
55-60	184250500	MDC 055060-I	184252800	MDC 055060-O	WC... 040204	P0250503	XT08	MDO 05506016
60-65	184250600	MDC 060065-I	184252900	MDC 060065-O	WC... 050308	P0300701	XT08	MDO 06006516
65-70	184250700	MDC 065070-I	184253000	MDC 065070-O	WC... 050308	P0300701	XT08	MDO 06507016
70-75	184250800	MDC 070075-I	184063700	MDC 070075-O	WC... 050308	P0300701	XT08	MDO 07007522
75-80	184250900	MDC 075080-I	184063800	MDC 075080-O	WC... 06T308	P0350903	XT15S35	MDO 07508022
80-85	184251000	MDC 080085-I	184063900	MDC 080085-O	WC... 06T308	P0350903	XT15S35	MDO 08008522
85-90	184251100	MDC 085090-I	184064000	MDC 085090-O	WC... 06T308	P0350903	XT15S35	MDO 08509027
90-95	184251200	MDC 090095-I	184064100	MDC 090095-O	WC... 06T308	P0350903	XT15S35	MDO 09009527
95-100	184251300	MDC 095100-I	184064200	MDC 095100-O	WC... 06T308	P0350903	XT15S35	MDO 09510027
100-105	184251400	MDC 100105-I	184064300	MDC 100105-O	WC... 050308	P0300701	XT08	MDO 10010532
105-110	184251500	MDC 105110-I	184253100	MDC 105110-O	WC... 06T308	P0350903	XT15S35	MDO 10511032
110-115	184251600	MDC 110115-I	184253200	MDC 110115-O	WC... 06T308	P0350903	XT15S35	MDO 11011532
115-120	184251700	MDC 115120-I	184253300	MDC 115120-O	WC... 06T308	P0350903	XT15S35	MDO 11512040
120-125	184251800	MDC 120125-I	184253400	MDC 120125-O	WC... 06T308	P0350903	XT15S35	MDO 12012540
125-130	184251900	MDC 125130-I	184253500	MDC 125130-O	WC... 06T308	P0350903	XT15S35	MDO 12513040
130-135	184252000	MDC 130135-I	184068900	MDC 130135-O	WC... 06T308	P0350903	XT15S35	MDO 13013540
135-140	184252100	MDC 135140-I	184069000	MDC 135140-O	WC... 06T308	P0350903	XT15S35	MDO 13514040
140-150	184252200	MDC 140150-I	184253600	MDC 140150-O	WC... 080408	P0401101	XT15S35	MDO 14015050
150-160	184252300	MDC 150160-I	184069200	MDC 150160-O	WC... 080408	P0401101	XT15S35	MDO 15016050
160-170	184252400	MDC 160170-I	184069300	MDC 160170-O	WC... 080408	P0401101	XT15S35	MDO 16017050
170-180	184252500	MDC 170180-I	184069400	MDC 170180-O	WC... 080408	P0401101	XT15S35	MDO 17018050

B

Drilling

Indexable
Insert Drill

Jet Drill

Integrex
Drill

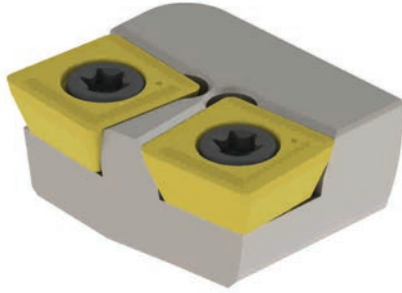
Vortex Drill



Trepanning
DrillSolid
Carbide Drill

Inserts

Spare
PartsTechnical
Data

SCC Cartridge (1mm)



ØD	Inner Cartridge		Outer Cartridge		Insert	Screw	Torx Key	For Drill
	Order Code	Reference	Order Code	Reference				
50-51	184069500	CISP 5055	184070100	COSP 5051	SP... 090408	P0350903	XT15S35	SCC 505140-3D & 4D
51-52	184069500	CISP 5055	184070200	COSP 5152	SP... 090408	P0350903	XT15S35	SCC 515240-3D & 4D
52-53	184069500	CISP 5055	184070300	COSP 5253	SP... 090408	P0350903	XT15S35	SCC 525340-3D & 4D
53-54	184069500	CISP 5055	184070400	COSP 5354	SP... 090408	P0350903	XT15S35	SCC 535440-3D & 4D
54-55	184069500	CISP 5055	184070500	COSP 5455	SP... 090408	P0350903	XT15S35	SCC 545540-3D & 4D
55-56	184069600	CISP 5560	184070600	COSP 5556	SP... 090408	P0350903	XT15S35	SCC 555640-3D & 4D
56-57	184069600	CISP 5560	184070700	COSP 5657	SP... 090408	P0350903	XT15S35	SCC 565740-3D & 4D
57-58	184069600	CISP 5560	184070800	COSP 5758	SP... 090408	P0350903	XT15S35	SCC 575840-3D & 4D
58-59	184069600	CISP 5560	184070900	COSP 5859	SP... 090408	P0350903	XT15S35	SCC 585940-3D & 4D
59-60	184069600	CISP 5560	184071000	COSP 5960	SP... 090408	P0350903	XT15S35	SCC 596040-3D & 4D
60-61	184069700	CISP 6065	184071100	COSP 6061	SP... 110408	P0401200	XT15S35	SCC 606140-3D & 4D
61-62	184069700	CISP 6065	184071200	COSP 6162	SP... 110408	P0401200	XT15S35	SCC 616240-3D & 4D
62-63	184069700	CISP 6065	184071300	COSP 6263	SP... 110408	P0401200	XT15S35	SCC 626340-3D & 4D
63-64	184069700	CISP 6065	184071400	COSP 6364	SP... 110408	P0401200	XT15S35	SCC 636440-3D & 4D
64-65	184069700	CISP 6065	184071500	COSP 6465	SP... 110408	P0401200	XT15S35	SCC 646540-3D & 4D
65-66	184069800	CISP 6570	184071600	COSP 6566	SP... 110408	P0401200	XT15S35	SCC 656640-3D & 4D
66-67	184069800	CISP 6570	184071700	COSP 6667	SP... 110408	P0401200	XT15S35	SCC 666740-3D & 4D
67-68	184069800	CISP 6570	184071800	COSP 6768	SP... 110408	P0401200	XT15S35	SCC 676840-3D & 4D
68-69	184069800	CISP 6570	184071900	COSP 6869	SP... 110408	P0401200	XT15S35	SCC 686940-3D & 4D
69-70	184069800	CISP 6570	184072000	COSP 6970	SP... 110408	P0401200	XT15S35	SCC 697040-3D & 4D
70-71	184069900	CISP 7075	184250100	COSP 7071	SP... 110408	P0401200	XT15S35	SCC 707140-3D & 4D
71-72	184069900	CISP 7075	184072200	COSP 7172	SP... 110408	P0401200	XT15S35	SCC 717240-3D & 4D
72-73	184069900	CISP 7075	184072300	COSP 7273	SP... 110408	P0401200	XT15S35	SCC 727340-3D & 4D
73-74	184069900	CISP 7075	184072400	COSP 7374	SP... 110408	P0401200	XT15S35	SCC 737440-3D & 4D
74-75	184069900	CISP 7075	184072500	COSP 7475	SP... 110408	P0401200	XT15S35	SCC 747540-3D & 4D
75-76	184070000	CISP 7580	184072600	COSP 7576	SP... 140512	P0501300	XT20S40	SCC 757640-3D & 4D
76-77	184070000	CISP 7580	184072700	COSP 7677	SP... 140512	P0501300	XT20S40	SCC 767740-3D & 4D
77-78	184070000	CISP 7580	184072800	COSP 7778	SP... 140512	P0501300	XT20S40	SCC 777840-3D & 4D
78-79	184070000	CISP 7580	184072900	COSP 7879	SP... 140512	P0501300	XT20S40	SCC 787940-3D & 4D
79-80	184070000	CISP 7580	184073000	COSP 7980	SP... 140512	P0501300	XT20S40	SCC 798040-3D & 4D

B

Drilling

Indexable
Insert Drill

Jet Drill

Integrex
Drill

Vortex Drill



Trepanning
DrillSolid
Carbide Drill

Inserts

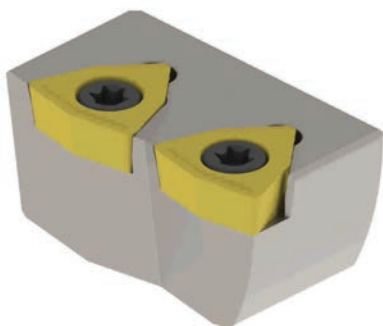
Spare
PartsTechnical
Data



SCC Cartridge (5mm)



ØD	Inner Cartridge		Outer Cartridge		Insert	Screw	Torx Key	For Drill
	Order Code	Reference	Order Code	Reference				
50-55	184230600	SCC 050055-I	184230700	SCC 050055-O	SP... 090408	P0350903	XT15S35	SCC 505540-3D & 4D
55-60	184230800	SCC 055060-I	184230900	SCC 055060-O	SP... 090408	P0350903	XT15S35	SCC 556040-3D & 4D
60-65	184231000	SCC 060065-I	184231100	SCC 060065-O	SP... 110408	P0401200	XT15S35	SCC 606540-3D & 4D
65-70	184231200	SCC 065070-I	184231300	SCC 065070-O	SP... 110408	P0401200	XT15S35	SCC 657040-3D & 4D
70-75	184231400	SCC 070075-I	184231500	SCC 070075-O	SP... 110408	P0401200	XT15S35	SCC 707540-3D & 4D
75-80	184231600	SCC 075080-I	184231700	SCC 075080-O	SP... 140512	P0501300	XT20S40	SCC 758040-3D & 4D

TDC Cartridge



ØD	Inner Cartridge		Outer Cartridge		Insert	Screw	Torx Key	For Drill
	Order Code	Reference	Order Code	Reference				
59-65	184109200	TDC 059065-I	184109300	TDC 059065-O	WC... 06T308	P0350903	XT15S35	TDC 596540-3D
65-70	184109400	TDC 065070-I	184109500	TDC 065070-O	WC... 06T308	P0350903	XT15S35	TDC 657040-3D
70-75	184109600	TDC 070075-I	184109700	TDC 070075-O	WC... 06T308	P0350903	XT15S35	TDC 707540-3D
75-80	184109800	TDC 075080-I	184109900	TDC 075080-O	WC... 06T308	P0350903	XT15S35	TDC 758040-3D

PND Cartridge



ØD	Inner Cartridge		Outer Cartridge		Insert	Screw	Torx Key	For Drill
	Order Code	Reference	Order Code	Reference				
40-55	184110000	PNC 040055-I	184128700	PNC 040055-O	WC... 050308	P0300701	XT08	PND 04032-2D ~ PND 05540-2D
60-110	184110100	PNC 060110-I	184128800	PNC 060110-O	WC... 06T308	P0350903	XT15S35	PND 06040-2D ~ PND 11050-2D

Screws & Keys



Order Code	Reference
290031400	P0200500
290030600	P0220500
290031300	P0250704
290030900	P0350903
290047500	P0401200
290031700	P0501300
290025800	P0180500
290033100	P0250503
290030800	P0300701
290031000	P0401101

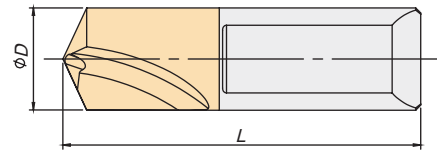
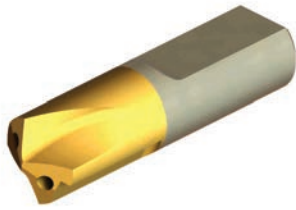


Order Code	Reference
290075700	P012013
290075800	P014015
290075900	P016017
290076000	P018019
290076100	P020021
290076200	P022023
290076300	P024025
290076400	P026027
290076500	P028029
290076600	P030031

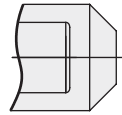


Order Code	Reference
290011400	XT06
290012900	XT07
290011700	XT08
290025700	XT09
290012400	XT15S35
290013200	XT20S40
290074700	TT15
290056000	TT20
290056100	TT25

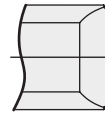
Pilot Drill



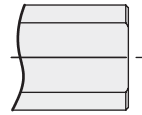
Shank Type



A (with cone)



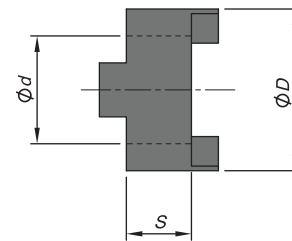
B (with chamfer)



C

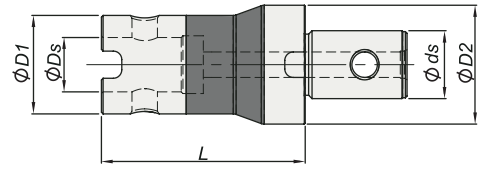
Order Code	Reference	Dimensions (mm)		Type	Oil Hole	For Drill
		$\varnothing D$	L			
184104100	MDP 3006	6	30	B	X	DHS ($\varnothing 25 - \varnothing 30$)
184104400	MDP 3508	8	35	B	V	DHS ($\varnothing 31 - \varnothing 40$)
184033100	MDP 3510	10	35	B	V	DHC ($\varnothing 41 - \varnothing 50$), MDO ($\varnothing 45 - \varnothing 55$)
184033200	MDP 3812	12	38	B	V	DHC ($\varnothing 51 - \varnothing 75$), MDO ($\varnothing 55 - \varnothing 75$)
184033300	MDP 4516	16	45	B	V	DHC ($\varnothing 75 - \varnothing 80$), MDO ($\varnothing 75 - \varnothing 100$)
184033400	MDP 4520	20	45	C	V	MDO ($\varnothing 100 - \varnothing 120$)
184033500	MDP 5625	25	56	C	V	MDO ($\varnothing 120 - \varnothing 160$)
184033600	MDP 6830	30	68	C	V	MDO ($\varnothing 160 - \varnothing 180$)
184150900	MDP 2006	6	20	A	X	TFD ($\varnothing 18,0 - \varnothing 25,0$)
184151000	MDP 2508	8	25	A	V	TFD ($\varnothing 25,5 - \varnothing 30,0$)



Drive Ring



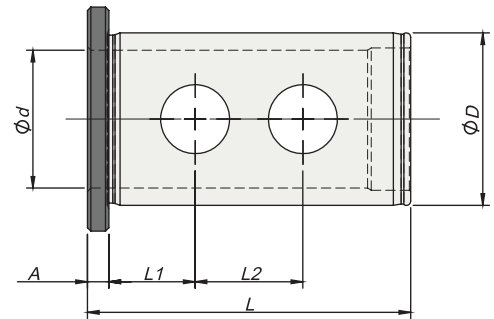
Order Code	Reference	Dimensions (mm)		
		$\varnothing D$	$\varnothing d$	S
184021600	MDR 1028	28	13	10
184021700	MDR 1032	32	16	10
184022100	MDR 1240	40	22	12
184022200	MDR 1248	48	27	12
184022300	MDR 1458	58	32	14
184022400	MDR 1470	70	40	14
184022500	MDR 1680	80	50	16

MDM - Reducer



Order Code	Reference	Dimensions (mm)					Drive Ring D1	Drive Ring D2
		ØDs	Øds	ØD1	ØD2	L		
184253900	MDM 16100130	13	16	28	32	100	MDR 1028	MDR 1032
184254000	MDM 22100160	16	22	32	40	100	MDR 1032	MDR 1240
184254100	MDM 27100220	22	27	40	48	100	MDR 1240	MDR 1248
184254200	MDM 32100130	13	32	28	58	100	MDR 1028	MDR 1458
184254300	MDM 32100160	16	32	32	58	100	MDR 1032	MDR 1458
184254400	MDM 32100220	22	32	40	58	100	MDR 1240	MDR 1458
184254500	MDM 32100270	27	32	48	58	100	MDR 1248	MDR 1458
184254600	MDM 40100320	32	40	58	70	100	MDR 1458	MDR 1470
184254700	MDM 50080130	13	50	28	80	80	MDR 1028	MDR 1680
184254800	MDM 50080160	16	50	32	80	80	MDR 1032	MDR 1680
184254900	MDM 50080220	22	50	40	80	80	MDR 1240	MDR 1680
184255000	MDM 50080270	27	50	48	80	80	MDR 1248	MDR 1680
184255100	MDM 50080320	32	50	58	80	80	MDR 1458	MDR 1680
184250200	MDM 50150400	40	50	70	80	150	MDR 1470	MDR 1680

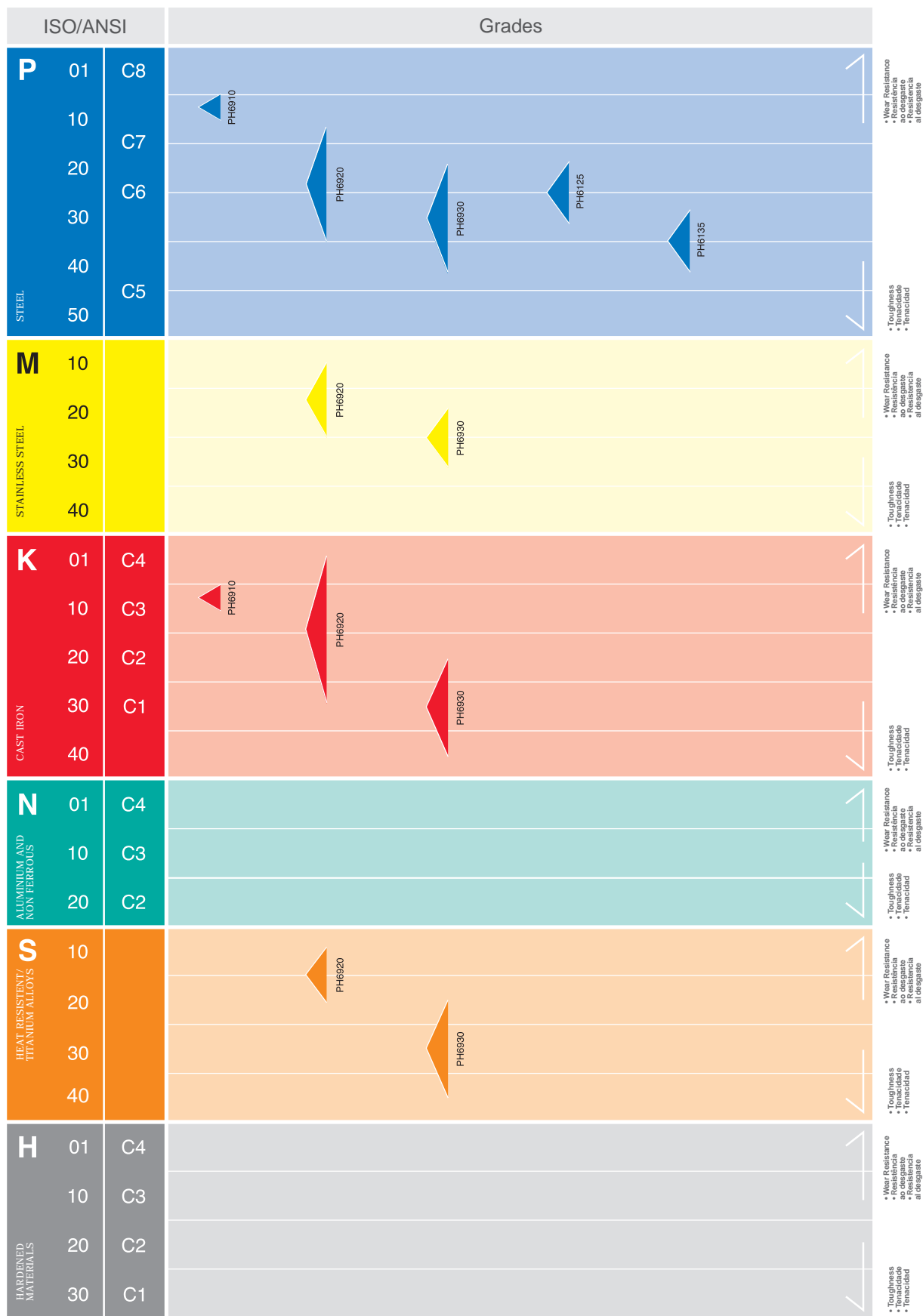
RDS - Drill Sleeve



Order Code	Reference	Dimensions (mm)					
		ØD	Ød	L	L1	L2	A
184258900	RDS 203265	32	20	65	20	-	5
184259000	RDS 253265	32	25	65	20	20	5
184259100	RDS 204075	40	20	75	20	-	5
184259200	RDS 254075	40	25	75	20	25	5
184259300	RDS 324075	40	32	75	20	25	5
184259400	RDS 205095	50	20	95	35	-	5
184259500	RDS 255095	50	25	95	35	-	5
184259600	RDS 325095	50	32	95	35	35	5
184259700	RDS 405095	50	40	95	35	35	5

Drilling Grades | Graus de Furação | Grados para Perforación

- Drilling
- Indexable Insert Drill
- Jet Drill
- Integrex Drill
- Vortex Drill
- Trepanning Drill
- Solid Carbide Drill
- Inserts
- Spare Parts
- Technical Data



The position and form of the grade symbols indicate the suitable field of application.

Centre of the field of application.

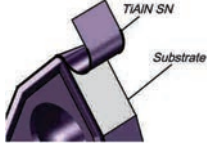
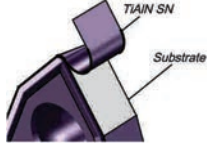
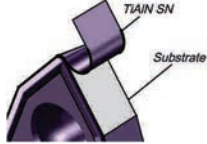
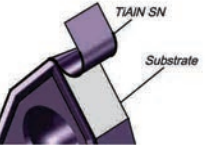
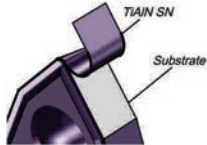


Recommended field of application.

Drilling Grades | Graus de Furação | Grados para Perforación

Coated Carbide Grades

PVD Grades

<p>PH6910 (P05-P10) (K05-K10)</p>  <p>PVD (TiAlN SN) coated carbide grade with a very hard micro grain substrate for drilling of steels and cast irons</p>	<p>PH6920 (P10-P35) (M10-M25) (K10-K30) (S10-S30)</p>  <p>An advanced PVD TiAlN coated grade over a tough wear resistance sub-micro substrate for general purpose machining.</p>	<p>PH6930 (P20-P40) (M20-M30) (K20-K40) (S20-S40)</p>  <p>Micro-grain carbide grade suitable for applications with instability conditions. Excellent solution for medium cutting speed applications.</p>
<p>PH6125 (P20-P30)</p>  <p>PVD coated carbide grade for light to heavy drilling in steel at elevates temperature. Excellent grade for drilling of steels at high productivity.</p>	<p>PH6135 (P30-P40)</p>  <p>PVD coated carbide four toughness demanding operations in drilling of steels. Excellent solutions for instable applications.</p>	

B

Drilling

Indexable
Insert Drill

Jet Drill

Integrex
Drill

Vortex Drill

Trepanning
Drill

Solid
Carbide Drill

Inserts

Spare
Parts

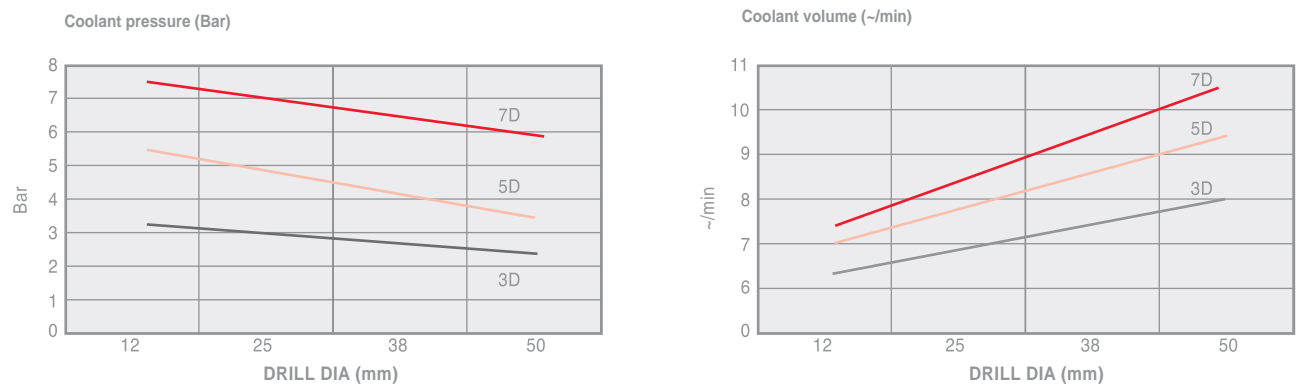
Technical
Data

Cutting Parameters and Adjustments | Parâmetros de Corte e Ajustes | Condiciones de Corte e Ajustes

Recommended Speeds and Feeds | Parâmetros de Corte Recomendados Recomendaciones de Datos de Corte

ISO	MATERIAL GROUP	ø8~16mm		ø16~25mm		ø25~32mm		ø32~40mm		ø40~50mm	
		Vc (m/min)	Fn (mm/rev.)	Vc (m/min.)	Fn (mm/rev.)	Vc (m/min.)	Fn (mm/rev.)	Vc (m/min.)	Fn (mm/rev.)	Vc (m/min.)	Fn (mm/rev.)
P	CARBON STEEL	55-70	0,15-0,30	55-70	0,16-0,40	60-85	0,20-0,40	70-90	0,22-0,48	75-95	0,25-0,54
	ALLOY STEEL	50-75	0,15-0,30	50-75	0,15-0,40	55-80	0,18-0,40	60-90	0,25-0,47	65-95	0,27-0,52
	HARDENED STEEL	40-50	0,10-0,20	40-50	0,12-0,28	40-50	0,16-0,35	40-60	0,20-0,38	40-60	0,22-0,42
M	STAINLESS STEEL	30-40	0,10-0,20	35-50	0,10-0,22	35-50	0,15-0,28	40-55	0,18-0,30	40-55	0,22-0,32
K	GREY CAST IRON	50-70	0,20-0,30	50-70	0,25-0,45	50-80	0,35-0,55	60-90	0,34-0,58	80-100	0,38-0,60
	NODULAR CAST IRON	40-65	0,15-0,25	40-65	0,22-0,45	45-75	0,32-0,52	50-80	0,35-0,62	70-100	0,38-0,60
N	ALLUMINIUM 130HB	80-100	0,20-0,30	80-100	0,25-0,40	90-110	0,30-0,45	90-110	0,30-0,45	90-120	0,30-0,50

Coolant Application Chart | Tabela Aplicação de Refrigeração | Tabla Aplicación de Refrigerante



Notes:

- 1 - The cutting data is recommended for 3D drills and should be slightly for 5D & 7D.
- 2 - Feeds and Speed for starting point only. It is recommended to use these values as a starting point until optimal results are obtained.
- 3 - SPEED DRILL is not recommended to operate in low powered equipment. Check spindle, machine and fixture rigidity before operation. Make sure that coincide drill point with the center of the material lathe operation. Feed enough cutting fluids.

Troubleshooting | Solução de Problemas | Solución de Problemas

Problem Problema	Cause Causa Fuente	Possible Solution Solução Solución
Flank wear Desgaste da aresta Desgaste del flanco	<ul style="list-style-type: none"> Excessive cutting speed Velocidade corte excessiva Velocidad corte excessiva 	<ul style="list-style-type: none"> Reduce cutting speed Reduza a velocidade corte Reduzca la velocidad
Edge chipping Esmilhamento da aresta Filos astillados	<ul style="list-style-type: none"> Vibration or chattering in machine tool, holder or component Vibrações na máquina ou ferramenta Vibración o vibraciones en la máquina herramienta o componente Deflection of tool, part, fixture or machine Defleção na ferramenta, acessório, fixação ou máquina Deformación de la herramienta, componente, accesorio o máquina Excessive cutting speed Velocidade corte excessiva Velocidad corte ex cessiva Off center set up Set up do centro Set up del cimiento maquinado 	<ul style="list-style-type: none"> Check and adjust machine and tool alignment Verifique e ajuste a máquina ou alinhamento da ferramenta Comprobar y ajustar la máquina y la alineación de herramienta Check all rigidity Verifique a rigidez Comprobar la rigidez Reduce cutting speed Reduza a velocidade corte Reduzca la velocidad Check concentricity not to exceed 0.02mm TIR Verifique concentricidade não superior a 0,02mm TIR Comprobar que concentricidad no exceda de 0,02mm TIR
Corner chipping Esmilhamento canto Córner astillado	<ul style="list-style-type: none"> Excessive cutting speed Velocidade corte excessiva Velocidad corte excessiva Insufficient coolant supply Refrigeração insuficiente Suministro de refrigerante insuficiente 	<ul style="list-style-type: none"> Reduce cutting speed Reduza a velocidade corte Reduzca la velocidad Increase coolant pressure Aumente a pressão da refrigeração Aumentar la presión del refrigerante
Built up edge Aresta postiça de corte Filos recrescidos	<ul style="list-style-type: none"> Insufficient cutting speed Velocidade corte insuficiente Insuficiente velocidad de corte Insufficient coolant supply Refrigeração insuficiente Suministro de refrigerante insuficiente Worn cutting edge Aresta de corte desgastada Desgaste del filo de corte 	<ul style="list-style-type: none"> Increase cutting speed Aumente a velocidade corte Aumentar la velocidad de corte Increase coolant pressure Aumente a pressão da refrigeração Aumentar la presión del refrigerante Reground or replace new drill Reafie ou substitua a ferramenta Reafilir o substituir la herramienta
Margin Orla Margen	<ul style="list-style-type: none"> Improper seating of tool Amarre de la herramienta improprio Assentamento da ferramenta impróprio Rough or angled entry/exit of hole Rugosidad o ângulo de entrada/salida del agujero Rugosidade ou ângulo de entrada/saída do furo Chip clogging or jamming Obstrucion por la viruta Obstrução pela avara Insufficient coolant supply Refrigeração insuficiente Suministro de refrigerante insuficiente Excessive cutting speed Velocidade corte excessiva Velocidad corte excessiva 	<ul style="list-style-type: none"> Check and adjust machine spindle and fixture Verifique e ajuste a fixação da máquina Compruebe la estabilidad de la maquina herramienta Reduce feed Reduza o avanço Reduzca el avance Increase coolant pressure and adjust feed to optimize chip-formation Aumente a refrigeração e ajuste a velocidade Aumente el refrigerante ajuste la velocidad Increase coolant pressure Aumente a pressão da refrigeração Aumentar la presión del refrigerante Reduce cutting speed Reduza a velocidade corte Reduzca la velocidad
Long stringy chips Aparas longas Viruta largo	<ul style="list-style-type: none"> Improper speed and feed Velocidade e avanço impróprios Velocidad e avanço improprios 	<ul style="list-style-type: none"> Adjust speed and feed Ajuste a velocidade e o avanço Adjuste la velocidad e el avance
Tool life too short Vida útil curta Vida util corta	<ul style="list-style-type: none"> Flank wear increase too fast Avanço rápido Avanço do flanco demasiado 	<ul style="list-style-type: none"> Reduce cutting speed Reduza a velocidade corte Reduzca la velocidad
Drill breakage Quebra da broca Quebra del taladro	<ul style="list-style-type: none"> Off center set up Set up do centro de maquinação Set up del centro de maquinaria Improper cutting condition Condições de corte impróprias Condiciones de corte improprias 	<ul style="list-style-type: none"> Check set up rigidity of machine, tool, and fixture Verifique a rigidez do conjunto, machina, ferramenta e fixação Compruebe la precision del conjunto maquina, herramienta e fijación Check cutting parameters, possibly reduce feed Verifique os parâmetros de corte, possível redução do avanço Compruebe los parametros, possible reducción del avance
Burrs on exit Rebarbas na saída Rebarbas en la salida	<ul style="list-style-type: none"> Excessive axial force Força axial excessiva Fuerza axial excessiva 	<ul style="list-style-type: none"> Reduce the width of edge preparation Reduza amplitude da preparação da aresta Reduzca la amplitud de preparación del filo de corte
Oversize hole Furo sobredimensionado Agujero sobredimensionado	<ul style="list-style-type: none"> Improper cutting condition Condições de corte impróprias Condiciones de corte improprias Clamping chuck Sistema de aperto Sistema de amarre 	<ul style="list-style-type: none"> Check cutting data, increase cutting speed Verifique os parâmetros de corte, aumente a velocidade de corte Revise los parametros, aumente la velocidad Check fit and clamping of tool Verifique o sistema de aperto e ajuste da ferramenta Compruebe el amarre de la herramienta
Undersize hole Furo pequeno Taladro inferior	<ul style="list-style-type: none"> Tool cooling Refrigeração da ferramenta Refrigerante de la herramienta Improper cutting condition Condições de corte impróprias Condiciones de corte improprias 	<ul style="list-style-type: none"> Check coolant fluid Verifique a refrigeração Compruebe el refrigerante Reduce cutting speed, increase feed Reduza a velocidade de corte, aumente o avanço Reduzca la velocidad, aumente el avance

B

Drilling

Indexable
Insert Drill

Jet Drill

Integrex
Drill

Vortex Drill

Trepanning
Drill

Solid
Carbide Drill

Inserts

Spare
Parts

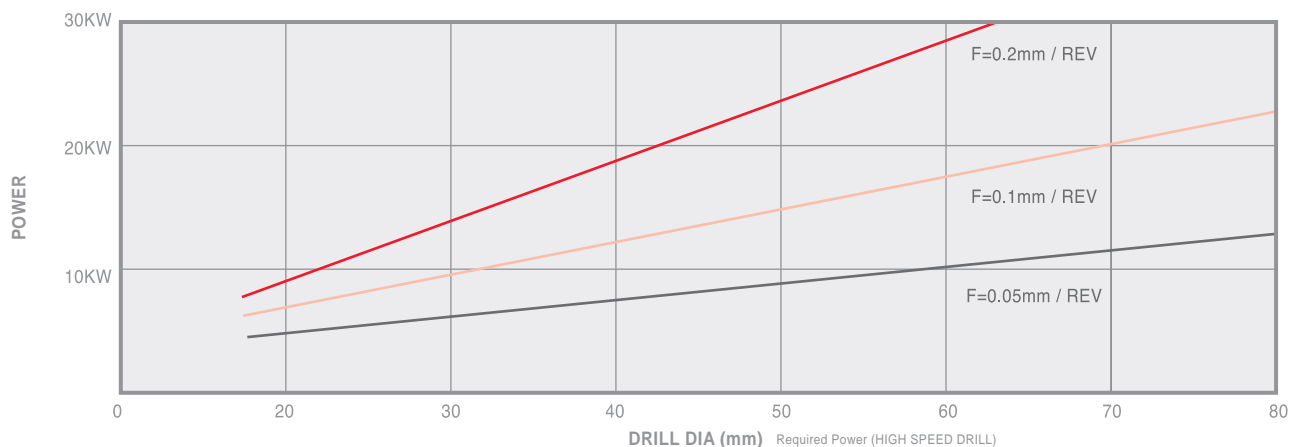
Technical
Data

TDS & TDC Drill Type

Recommended Speeds and Feeds | Parâmetros de Corte Recomendados Recomendaciones de Datos de Corte

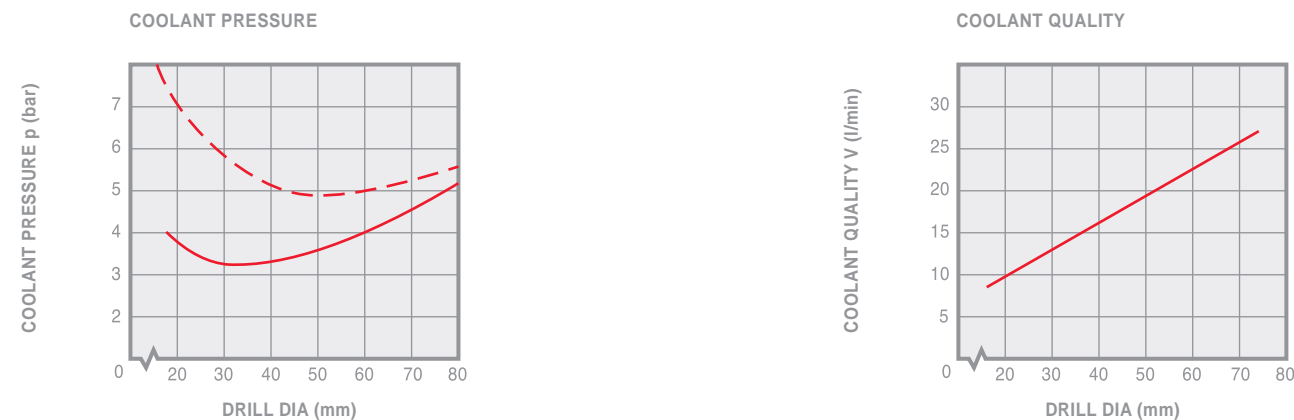
ISO	MATERIAL GROUP	Vc (m/min)	ø13~15,5	ø16~20	ø20,5~25	ø25,5~30	ø31~41	ø42~58	ø59~80
P	UNALLOYED STEEL (-0,25%)	180-260	0,05-0,08	0,06-0,10	0,07-0,12	0,09-0,15	0,11-0,18	0,15-0,28	0,11-0,18
	LOW-ALLOY STEEL (0,25%-)	150-240	0,05-0,08	0,06-0,10	0,07-0,12	0,09-0,15	0,11-0,18	0,15-0,28	0,11-0,18
	LOW-ALLOY STEEL	120-240	0,05-0,08	0,06-0,10	0,07-0,12	0,09-0,15	0,11-0,18	0,15-0,28	0,11-0,18
	HIGH-ALLOY STEEL	130-220	0,05-0,08	0,06-0,10	0,07-0,12	0,09-0,15	0,11-0,18	0,15-0,28	0,11-0,18
M	STAINLESS STEEL	150-220	0,04-0,08	0,05-0,09	0,06-0,12	0,07-0,13	0,08-0,16	0,10-0,20	0,08-0,16
K	GREY CAST IRON	150-250	0,05-0,11	0,07-0,13	0,08-0,12	0,10-0,18	0,14-0,26	0,18-0,35	0,14-0,26
	CAST IRON WITH NODULAR CAST	120-200	0,05-0,11	0,06-0,13	0,07-0,12	0,08-0,18	0,14-0,26	0,18-0,35	0,14-0,26
N	ALUMINUM FORGING ALLOYS	300-380	0,04-0,06	0,05-0,07	0,06-0,08	0,07-0,09	0,10-0,14	0,12-0,17	0,10-0,14
	ALUMINIUM CAST ALLOYS	260-330	0,04-0,06	0,05-0,07	0,06-0,08	0,07-0,09	0,10-0,14	0,12-0,17	0,10-0,14
S	SUPER-ALLOYS AND TITANIUM	40-80	0,03-0,05	0,04-0,06	0,04-0,07	0,05-0,08	0,06-0,10	0,07-0,13	0,06-0,10

Power Requirements | Requisitos de Potência | Requisitos de Potencia



- These chart is based on machining experiences using steels with a hardness of 200-250HB and cutting speed of 100m/min.
- For cast iron the effective power requirement is around 30% lower.

Coolant Application Chart | Tabela Aplicação de Refrigeração | Tabla Aplicación de Refrigerante



TDS & TDC Drill Type

*Hole Tolerance and Maximum Hole Size With Radial Adjustment /
Tolerância do Furo e Dimensão Máxima do Furo com Ajuste Radial /
Tolerancia de los Agujeros y el Tamaño Del agujero Máximo con Ajuste Radial*

DRILL D	RADIAL ADJUST.	MAX HOLE D
13.00	1.50	16.00
13.50	1.50	16.50
14.00	1.50	17.00
14.50	1.50	17.50
15.00	1.50	18.00
15.50	1.50	18.50
16.00	1.50	19.00
16.50	1.50	19.50
17.00	1.50	20.00
17.50	1.50	20.50
18.00	1.40	20.80
18.50	1.30	21.10
19.00	1.20	21.40
20.00	1.00	22.00
21.00	1.60	24.20
22.00	1.50	25.00
23.00	1.25	25.50
24.00	1.00	26.00
25.00	0.80	26.60
26.00	2.50	31.00
27.00	2.20	31.40
28.00	2.10	32.20
29.00	1.80	32.60
30.00	1.50	33.00
31.00	3.50	38.00
32.00	3.20	38.40

DRILL D	RADIAL ADJUST.	MAX HOLE D
33.00	3.00	39.00
34.00	2.80	39.60
35.00	2.50	40.00
36.00	2.30	40.60
37.00	2.00	41.00
38.00	1.80	41.60
39.00	1.50	42.00
40.00	1.20	42.40
41.00	1.00	43.00
42.00	4.20	50.40
43.00	4.00	51.00
44.00	3.70	51.40
45.00	3.50	52.00
46.00	3.30	52.60
47.00	3.00	53.00
48.00	2.70	53.40
49.00	2.50	54.00
50.00	2.20	54.40
51.00	2.00	55.00
52.00	1.80	55.60
53.00	1.50	56.00
54.00	1.20	56.40
55.00	0.80	56.60
56.00	0.60	57.20
58.00	0.40	58.80

B
Drilling

Indexable
Insert Drill

Jet Drill

Integrex
Drill

Vortex Drill

Trepanning
Drill

Solid
Carbide Drill



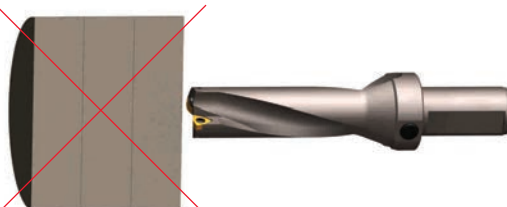
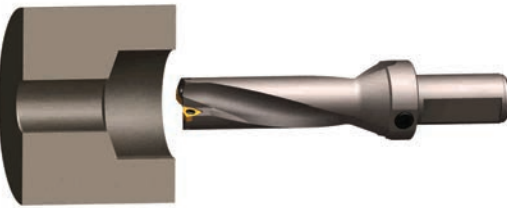
Inserts

Spare
Parts

Technical
Data

TDS & TDC Drill Type

Rules & Tips | Regras e Dicas | Normas e Consejos

Operation Operación Operação	Description Descripción Descrição
<ul style="list-style-type: none"> • SPOT DRILLING THROUGH ON INCLINED SURFACES • PERFORACIÓN LOCALIZADA Y PERFORACION SOBRE SUPERFICIES INCLINADAS • PERFURAÇÃO LOCALIZADA E PERFURAÇÃO ATRAVÉS DE SUPERFICIES INCLINADAS 	<ul style="list-style-type: none"> • Up to a 30° inclination angle is possible without reducing the cutting parameters. For angles between 30-40°, reduce feed force at incline surface by 50% • Hasta un ángulo de inclinación de 30° es posible sin la reducción de los parametros de corte. En ángulos entre 30-40°, reduzca el avance en 50%. • Até um ângulo de 30° é possível sem a redução dos parametros de corte. Para ângulos entre 30-40°, reduza o avanço na superfície inclinada em 50%.
<ul style="list-style-type: none"> • INTERRUPTED CUTS • CORTE INTERRUMPIDO • CORTE INTERROMPIDO 	<ul style="list-style-type: none"> • For problem-free drilling in interrupted cuts (cross drilling, etc.), reduce the cutting force and feed by 30% to maintain maximum stability of the machine and clamping mechanisms. • En perforación en corte interrumpido, reduzca la velocidad de corte e el avance en 30% para mantener la estabilidad. • Para furação em corte interrompido, reduza a velocidade de corte e o avanço em 30% para manter a estabilidade máxima da máquina e sistemas de aperto.
<ul style="list-style-type: none"> • DRILLING OF STACKED PLATES • PERFORACIÓN DE PLACAS APILADAS • PERFURAÇÃO DE CHAPAS EMPILADAS 	<ul style="list-style-type: none"> • This is not possible with the standart TDS or TDC drills. A final disc will form when the drill breaks through. • Esta operación no és posible com brocas standart TDS o TDC. • Esta operação não é possível com as brocas standart TDS ou TDC. Um disco forma-se e poderá saltar no final da operação quando trespassa a peça.
<ul style="list-style-type: none"> • BORING • MADRILAGEM • MANDRILAGEM 	<ul style="list-style-type: none"> • When the TDC or TDS drill are used as boring tool, oofset the drill in the direction of the cutter insert. Watch the outer insert for wear because is cutting more metal than the inner insert and may require more frequent indexing. • Siempre que use las TDS o TDC en operaciones de mandrilage, oriente el inserto exterior. Se deve observar el desgaste del inserto exterior una vez que podrá necessitar de una indexación mas regular. • Quando as TDS ou TDC são usadas para operações de mandrilamento oriente a broca pela pastilha exterior. Observe a desgaste da pastilha exterior uma vez que esta debasta mais metal que a pastilha exterior e poderá requerer uma indexação mais frequente.

B

Drilling

Indexable
Insert Drill

Jet Drill

Integrex
Drill

Vortex Drill

Trepanning
Drill

Solid
Carbide Drill

Inserts

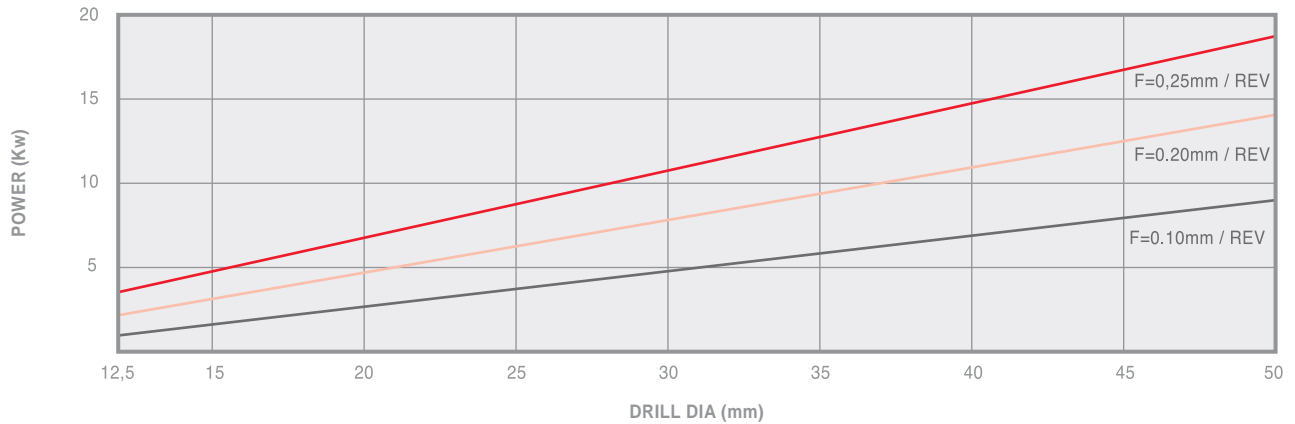
Spare
Parts

SCS & SCC Drill Type

Recommended Speeds and Feeds / Parâmetros de Corte Recomendados Recomendaciones de Datos de Corte

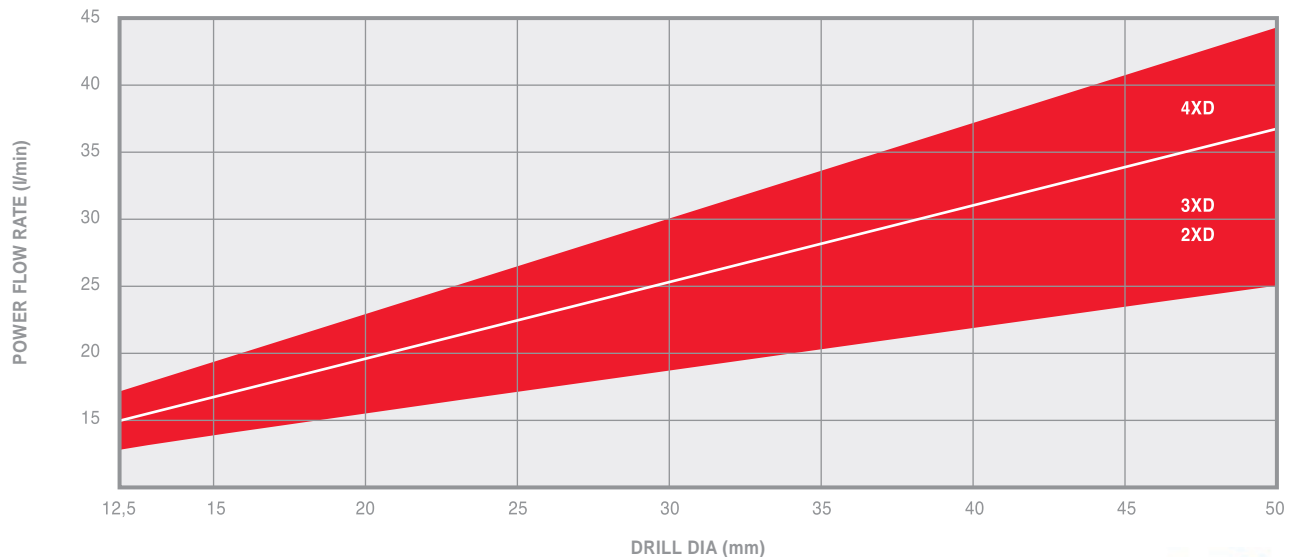
ISO	MATERIAL GROUP	Vc (m/min)	ø12,5~15	ø15,5~21,5	ø22~27,5	ø28~33	ø34~41	ø42~50	ø50~60	ø60~75	ø75~80
P	UNALLOYED STEEL (-0,25%)	180-250	0,05-0,08	0,06-0,10	0,06-0,12	0,07-0,13	0,08-0,15	0,08-0,16	0,06-0,12	0,08-0,12	0,08-0,12
	LOW-ALLOY STEEL (0,25%-)	160-220	0,06-0,12	0,08-0,15	0,10-0,18	0,12-0,22	0,12-0,24	0,13-0,25	0,10-0,14	0,12-0,18	0,11-0,18
	LOW-ALLOY STEEL	150-220	0,06-0,12	0,08-0,14	0,10-0,18	0,12-0,22	0,12-0,23	0,13-0,24	0,08-0,15	0,10-0,18	0,10-0,18
	HIGH-ALLOY STEEL	130-180	0,06-0,10	0,08-0,15	0,10-0,20	0,12-0,23	0,12-0,24	0,13-0,25	0,08-0,14	0,09-0,15	0,09-0,14
M	STAINLESS STEEL	170-240	0,05-0,10	0,06-0,12	0,08-0,15	0,09-0,16	0,10-0,17	0,11-0,19	0,06-0,13	0,08-0,15	0,08-0,14
K	GREY CAST IRON	180-250	0,06-0,12	0,08-0,16	0,12-0,20	0,15-0,25	0,16-0,28	0,18-0,30	0,12-0,20	0,15-0,20	0,15-0,20
	CAST IRON WITH NODULAR CAST	130-200	0,06-0,10	0,08-0,15	0,10-0,18	0,12-0,20	0,15-0,23	0,16-0,25	0,10-0,15	0,09-0,18	0,10-0,18
N	ALUMINUM FORGING ALLOYS	330-380	0,06-0,14	0,08-0,15	0,10-0,20	0,12-0,22	0,14-0,23	0,15-0,26	0,14-0,20	0,14-0,23	0,15-0,23
S	SUPER-ALLOYS AND TITANIUM	30-60	0,05-0,10	0,06-0,14	0,08-0,18	0,10-0,22	0,12-0,22	0,14-0,24	0,10-0,15	0,10-0,15	0,10-0,15

Power Requirements / Requisitos de Potência / Requisitos de Potencia



- These chart is based on machining experiences using steels with a hardness of 200-250HB and cutting speed of 100m/min.
- For cast iron the effective power requirement is around 30% lower.

Coolant Application Chart / Tabela Aplicação de Refrigeração / Tabla Aplicación de Refrigerante



SCS & SCC Drill Type

*Hole Tolerance and Maximum Hole Size With Radial Adjustment /
Tolerância do Furo e Dimensão Máxima do Furo com Ajuste Radial /
Tolerancia de los Agujeros y el Tamaño Del agujero Máximo con Ajuste Radial*

DRILL D	3xD		
	NORMAL	RADIAL ADJUST.	MAX HOLE D
13	13.16	0.50	14.0
14	14.10	0.50	15.0
15	15.10	0.50	16.0
16	16.07	0.50	17.0
17	17.08	0.50	18.0
18	18.05	0.50	19.0
19	19.08	0.50	20.0
20	20.06	0.50	21.0
21	20.97	0.25	21.5
22	21.94	0.50	23.0
23	23.10	0.50	24.0
24	24.10	0.50	25.0
25	25.06	0.50	26.0
26	26.03	0.25	26.5
27	27.05	0.25	27.5
28	28.11	0.50	29.0
29	28.54	0.50	30.0
30	30.23	0.50	31.0
31	31.07	0.25	31.5
32	32.06	0.25	32.5
33	33.12	0.25	33.5
34	34.10	0.50	35.0
35	35.07	0.50	36.0
36	36.03	0.50	37.0
37	37.14	0.50	38.0
38	38.05	0.50	39.0
39	39.03	0.50	40.0
40	40.00	0.25	40.5
41	40.99	0.25	41.5
42	42.03	0.50	43.0
43	42.99	0.50	44.0
44	44.17	0.50	45.0
45	45.21	0.50	46.0
46	46.17	0.50	47.0
47	47.15	0.50	48.0
48	48.12	0.25	48.5
49	49.00	0.25	49.5
50	50.02	0.25	50.5

DRILL D	4xD		
	NORMAL	RADIAL ADJUST.	MAX HOLE D
13	13.22	0.50	14.0
14	14.15	0.50	15.0
15	15.17	0.50	16.0
16	16.09	0.50	17.0
17	17.13	0.50	18.0
18	18.20	0.50	19.0
19	19.18	0.50	20.0
20	20.05	0.50	21.0
21	21.00	0.25	21.5
22	22.01	0.50	23.0
23	23.10	0.50	24.0
24	24.15	0.50	25.0
25	25.13	0.50	26.0
26	26.09	0.25	26.5
27	26.96	0.25	27.5
28	27.97	0.50	29.0
29	29.07	0.50	30.0
30	30.13	0.50	31.0
31	31.12	0.25	31.5
32	32.11	0.25	32.5
33	33.17	0.25	33.5
34	34.15	0.50	35.0
35	35.12	0.50	36.0
36	36.08	0.50	37.0
37	37.19	0.50	38.0
38	38.08	0.50	39.0
39	39.08	0.50	40.0
40	40.05	0.25	40.5
41	41.04	0.25	41.5
42	42.08	0.50	43.0
43	43.04	0.50	44.0
44	44.22	0.50	45.0
45	45.26	0.50	46.0
46	46.23	0.50	47.0
47	47.20	0.50	48.0
48	48.17	0.25	48.5
49	49.05	0.25	49.5
50	50.07	0.25	50.5

- B
- Drilling
- Indexable Insert Drill
- Jet Drill
- Integrex Drill
- Vortex Drill
- Trepanning Drill
- Solid Carbide Drill
- Inserts
- Spare Parts

Troubleshooting | Solução de Problemas | Solución de Problemas

Problem Problema	Corrective Action	Possível Solução	Solución Possible
<p>INNER CUTTING EDGE CRACKING</p> 	<p>On Lathes:</p> <ul style="list-style-type: none"> • Check machine alignment. • Check clamping accuracy. If tool clamping cannot be improved and/or optimum machine stability is doubtful, reduce feed by 30%. • User tougher carbide grade. <p>TIP: Grades can be mixed to achieve optimum performance.</p> <p>Example: Use grade PH6125 in the inside pocket with PH6135 in the outside pocket.</p>	<p>Em Tornos:</p> <ul style="list-style-type: none"> • Verifique o alinhamento máquina. • Verifique a precisão do aperto. Se o aperto não puder ser melhorado e/ou a otimização da estabilidade da máquina é duvidosa, reduza o avanço em 30%. • Usar classes de graus mais duras. <p>DICA: Misture classes Graus para alcançar o desempenho ideal.</p> <p>Exemplo: Utilize PH6125 na pastilha interior e PH6135 na pastilha exterior.</p>	<p>Tornos en:</p> <ul style="list-style-type: none"> • Compruebe la alineación de máquinas. • Verificar la precisión de sujeción. Si la herramienta de sujeción no puede mejorar y / o optimizar la estabilidad de la máquina es dudosa, reducir los piensos en un 30%. • El usuario de carburo de calidades más estrictas. <p>SUGERENCIA: Las calificaciones se pueden mezclar para lograr un rendimiento óptimo.</p> <p>Ejemplo: Utilice PH6125 en el inserto interior e PH6135 en el inserto exterior.</p>
<p>CHIP EVACUATION NOT OPTIMAL</p> 	<ul style="list-style-type: none"> • Increase coolant pressure and volume (coolant helps support chip evacuation as well as cooling the cutting edges). • Optimize chip control for a given application. • Increase cutting speed by 20%. 	<ul style="list-style-type: none"> • Aumente a pressão e volume do líquido de refrigeração (este permite uma melhor evacuação da apar, bem como um arrefecimento das arestas de corte). • Optimize o controlo das aparas para cada operação. • Aumentar a velocidade de corte de 20%. 	<ul style="list-style-type: none"> • Aumentar la presión del refrigerante y el volumen (el líquido de refrigeración de chips de apoyo ayuda a la evacuación, así como el enfriamiento de la corte de los bordes). • Optimizar el control de chip para una aplicación determinada. • Aumentar la velocidad de corte un 20%.
<p>EXCESSIVE INSERT WEAR</p> 	<ul style="list-style-type: none"> • Increase coolant pressure and volume. • Reduce cutting speed by 20%. • Use a more wear – resistant grade. 	<ul style="list-style-type: none"> • Aumente o volume e a pressão do líquido de refrigeração. • Reduzir a velocidade de corte de 20%. • Utilize um grau mais resistente ao desgaste. 	<ul style="list-style-type: none"> • Aumentar la presión del refrigerante y el volumen. • Reducir la velocidad de corte en un 20%. • Utilice un mayor desgaste - resistente grado.
<p>POOR DRILL HOLE QUALITY</p> 	<ul style="list-style-type: none"> • Increase coolant pressure and volume. • Increase cutting speed by 20% • Check clamping accuracy (tool and workpiece) for possible improvement. <p>TIP: Use higher speed with lighter feed to produce better hole quality.</p>	<ul style="list-style-type: none"> • Aumente o volume e a pressão do líquido de refrigeração. • Aumentar a velocidade de corte de 20% • Verifique a precisão do aperto (ferramenta e peça). <p>DICA: Utilize velocidades com avanços menores para produzir uma melhor qualidade do furo.</p>	<ul style="list-style-type: none"> • Aumentar la presión del refrigerante y el volumen. • Aumentar la velocidad de corte en un 20% • Verificar la precisión de sujeción (herramienta y pieza de trabajo) para una posible mejora. <p>SUGERENCIA: El uso ligero con mayor velocidad de alimentación para producir una mejor calidad agujero.</p>

B

Drilling

Indexable Insert Drill

Jet Drill

Integrex Drill

Vortex Drill

Trepanning Drill

Solid Carbide Drill

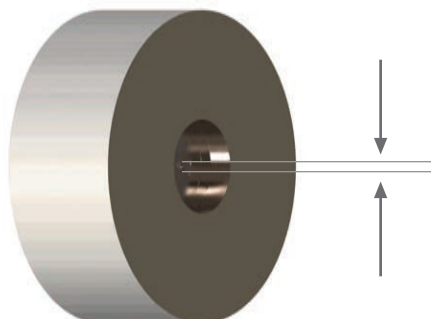
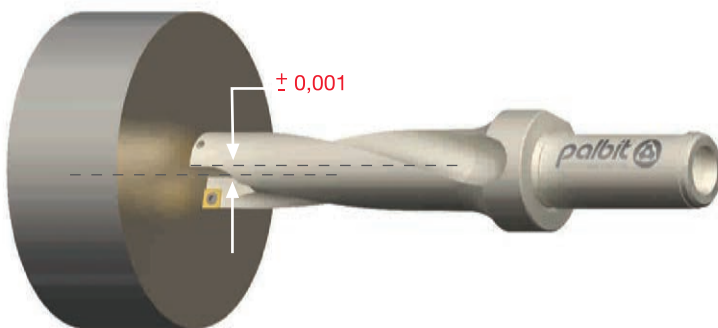
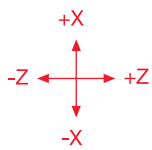
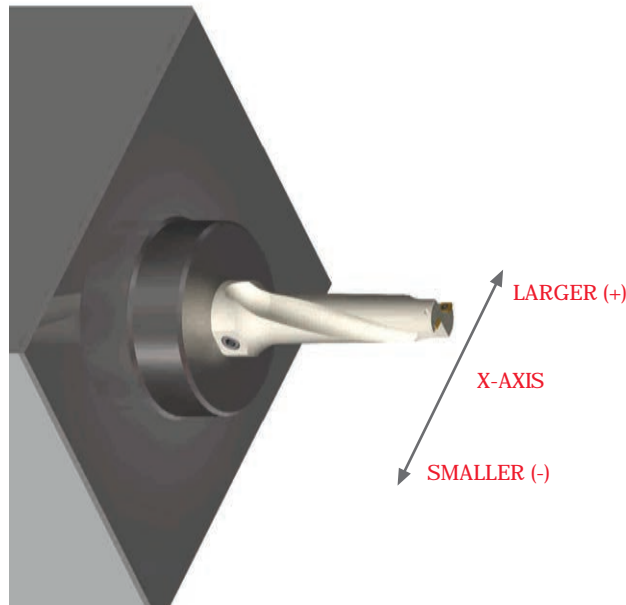
Inserts

Spare Parts

Technical Data

Technical Information for Lathe Applications | Informação Técnica para Aplicações | Información Técnica para Aplicaciones

Initial Drill Set Up and Check | Ajuste Inicial da Broca e Verificação Ajuste Inicial de la Broca e su Verificación



- The cutting edge of insert should be parallel to X-axis to make it possible to do offset cutting.

Since a flat part on shank for side lock clamping has been made parallel with the cutting edge line of insert, operator can set the drill as per flat part of shank.

- A aresta de corte da pastilha deve ser paralela ao eixo X tornando possível o alinhamento de corte.

- El hilo de corte del inserto se debe posicionar paralelamente al axis-X tornando posible el aliñamiento de corte.

- The outer insert should be located in the direction (+) of X-axis to allow offset cutting and then the inner insert should face the operator.

- A pastilha exterior deve estar localizada na direcção (+) do eixo-X, permitindo assim o alinhamento do corte, a pastilha interior deve estar virada ao operador.

- El inserto exterior se debe localizar en la dirección (+) del axis-X, permitiendo el aliñamiento del corte, el inserto interior debe quedar-se virado para el operador.

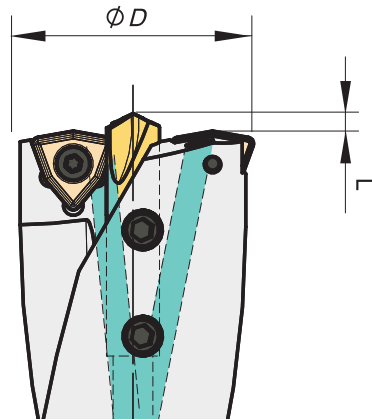
- To check up the setting of drill before use, test it by drilling about 5mm depth and then measure the core size if it is around 0,2mm - 0,7mm.

- Para verificar o ajuste faça o teste furando cerca de 5mm de profundidade medindo depois o núcleo verificando se este tem aproximadamente 0,2 a 0,7mm.

- Para comprobar el ajuste hacer un taladro de cerca de 5 mm de profundidad, medido después su núcleo si se trata de 0,2 a 0,7 mm.

DHS, DHC, TFD Drill Type

Pilot Drill Adjustment / Ajuste da Broca Piloto / Ajuste de la Broca Piloto

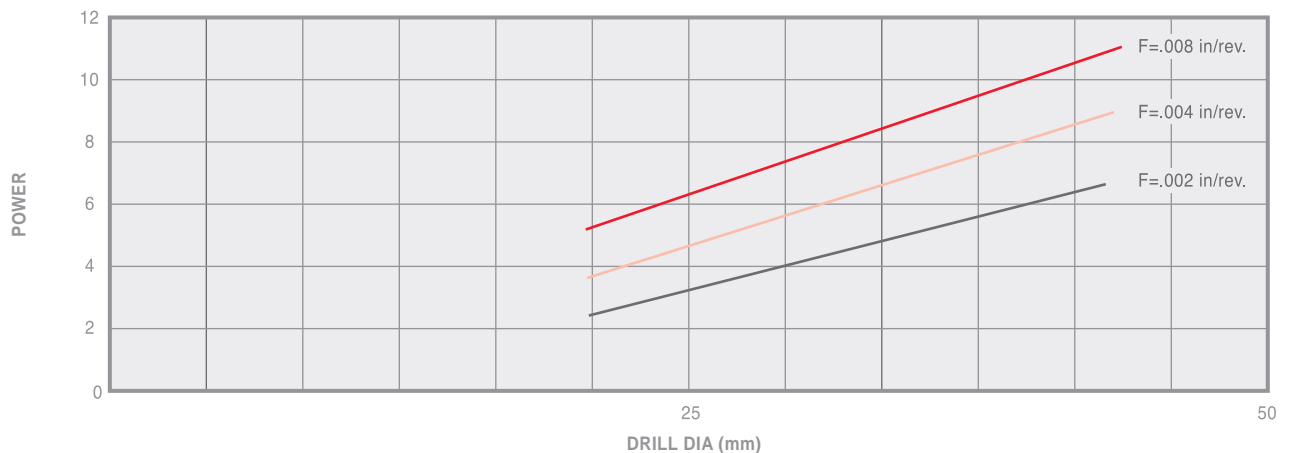


ØD	L
18-24	2,5
25-30	3,0
31-39	4,0
40-59	4,5
60-80	5,0

Recommended Speeds and Feeds / Parâmetros de Corte Recomendados / Recomendaciones de Datos de Corte

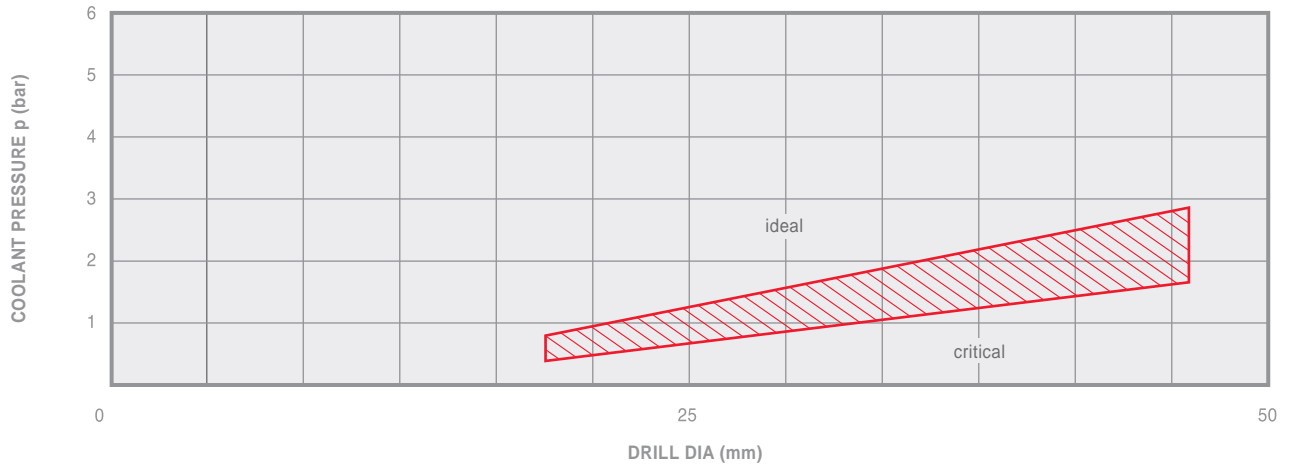
ISO	MATERIAL GROUP	Vc (m/min)	Ø25	Ø26~30	Ø31~40	Ø41~50	Ø51~59	Ø60~75	Ø75~80
P	UNALLOYED STEEL (-0,25%)	130-190	0,06-0,10	0,07-0,11	0,08-0,12	0,10-0,14	0,14-0,20	0,08-0,12	0,10-0,14
	LOW-ALLOY STEEL (0,25%-)	130-190	0,06-0,10	0,07-0,11	0,08-0,12	0,10-0,14	0,12-0,18	0,08-0,12	0,10-0,14
	LOW-ALLOY STEEL (-HB300)	100-140	0,06-0,10	0,07-0,11	0,08-0,12	0,10-0,14	0,12-0,18	0,08-0,12	0,10-0,14
	HIGH-ALLOY STEEL (HB300-)	60-100	0,05-0,07	0,05-0,07	0,06-0,08	0,06-0,10	0,09-0,13	0,06-0,08	0,06-0,10
M	STAINLESS STEEL	60-110	0,04-0,07	0,04-0,11	0,06-0,12	0,08-0,14	0,10-0,18	0,06-0,12	0,08-0,14
K	GREY CAST IRON	130-190	0,07-0,13	0,07-0,15	0,08-0,16	0,10-0,18	0,12-0,22	0,08-0,16	0,10-0,18
	CAST IRON WITH NODULAR CAST	110-190	0,04-0,13	0,07-0,15	0,08-0,16	0,10-0,25	0,12-0,26	0,08-0,16	0,10-0,25
N	ALUMINUM FORGING ALLOYS	200-300	0,04-0,06	0,07-0,12	0,08-0,13	0,09-0,15	0,12-0,20	0,08-0,13	0,09-0,15
	ALUMINIUM CAST ALLOYS	140-300	0,04-0,06	0,06-0,12	0,08-0,13	0,09-0,15	0,12-0,20	0,08-0,13	0,09-0,15

Power Requirements / Requisitos de Potência / Requisitos de Potencia



DHS, DHC, TFD Drill Type

Coolant Application Chart / Tabela Aplicação de Refrigeração / Tabla Aplicación de Refrigerante



B

Drilling

Indexable
Insert Drill

Jet Drill

Integrex
Drill

Vortex Drill

Trepanning
Drill

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Carbide Drill

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Spare
Parts

Technical
Data

DHS, DHC, TFD Drill Type

Rules & Tips | Regras e Dicas | Normas e Consejos

WRONG	CORRECT	EN	PT	ES
		<p>Spot Drilling</p> <p>For plain/straight surfaces, no spot drilling is required. For centering, the center drill diameter should be considerably smaller than the pilot drill diameter.</p>	<p>Perfuração Localizada</p> <p>Para superfícies planas a perfuração localizada não é necessária. O diâmetro da broca de pré-furação deve ser consideravelmente menor do que o diâmetro da broca-piloto.</p>	<p>Perforación Localizada</p> <p>Para superficies planas, no se requiere la perforación in situ. Para centrar el diámetro de pré-perforación debe ser considerablemente más pequeño que el diámetro de la broca piloto.</p>
		<p>Spot drilling and drilling through on inclined surfaces.</p> <p>Up to an 8° inclination angle is possible. Drilling through at a maximum of 4° is possible; otherwise, a pre-facing operation is necessary.</p>	<p>Perfuração localizada e perfuração através de superfícies inclinadas.</p> <p>Até 8° ângulo de inclinação é possível. Perfuração até a um máximo de 4° é possível, caso contrário, é necessária uma pré-operação.</p>	<p>Perforación localizada y perforación sobre superficies inclinadas.</p> <p>Hasta un ángulo de inclinación de 8° es posible. A través de la perforación en un máximo de 4° es posible, de otro modo, es necesaria pre-operación.</p>
		<p>Multi-Stage Drill Hole</p> <p>Integrex series drills are not recommended for boring operations. First, use the Integrex drill to drill a larger diameter hole. Then, use a solid carbide drill for smaller holes. Optimum centering of the solid carbide drill is possible on the drill hole of the pilot drill.</p>	<p>Furo Multi-Estágio</p> <p>As brocas Integrex não são recomendadas para operações de mandrilagem. Primeiro utilize a Integrex para o furo de diâmetro maior, então use uma broca Metal Duro Integrex para o furo de diâmetro mais reduzido.</p>	<p>Multi-etapa taladro</p> <p>Las brocas Integrex no son recomendadas para las operaciones de mandrilagen. En primer lugar, utilizar la Integrex para perforar un agujero de diámetro mayor. A continuación, utilice una broca de carburo sólido para los pequeños agujeros. Centrado óptimo del taladro de carburo sólido es posible en el taladro de la broca piloto.</p>
		<p>Drilling of stacked plates</p> <p>This is not possible with Integrex series drills because a final disc forms when the drill breaks through.</p> <p>Caution: During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect all bystanders.</p>	<p>Perfuração de chapas empilhadas</p> <p>Isso não é possível com a Integrex porque um disco final forma-se quando a broca passa</p> <p>Cuidado: Durante operações de trespassar uma placa, uma apara ou disco é produzido quando a broca rompe através da peça. Quando a broca está parada e é a peça rotativa, este disco pode ser arremessado da brecha pela força centrífuga. Proporcionar adequada blindagem para proteger todos os transeuntes.</p>	<p>Perforación de placas apiladas</p> <p>Esto no es posible con la Integrex debido a un disco que se forma cuando el taladro a través de las placas.</p> <p>Precaución: Durante las operaciones a través de agujeros, una babosa o disco se produce como la herramienta provocando saltos de la pieza. Cuando la perforación es estacionaria y la pieza está girando, este disco puede ser lanzado desde el plato por la fuerza centrífuga. Proporcionar la protección adecuada para proteger a todos los transeúntes.</p>

B

Drilling

Indexable Insert Drill

Jet Drill

Integrex Drill

Vortex Drill

Trepanning Drill

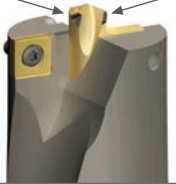



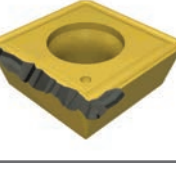


Solid Carbide Drill

Inserts

Spare Parts

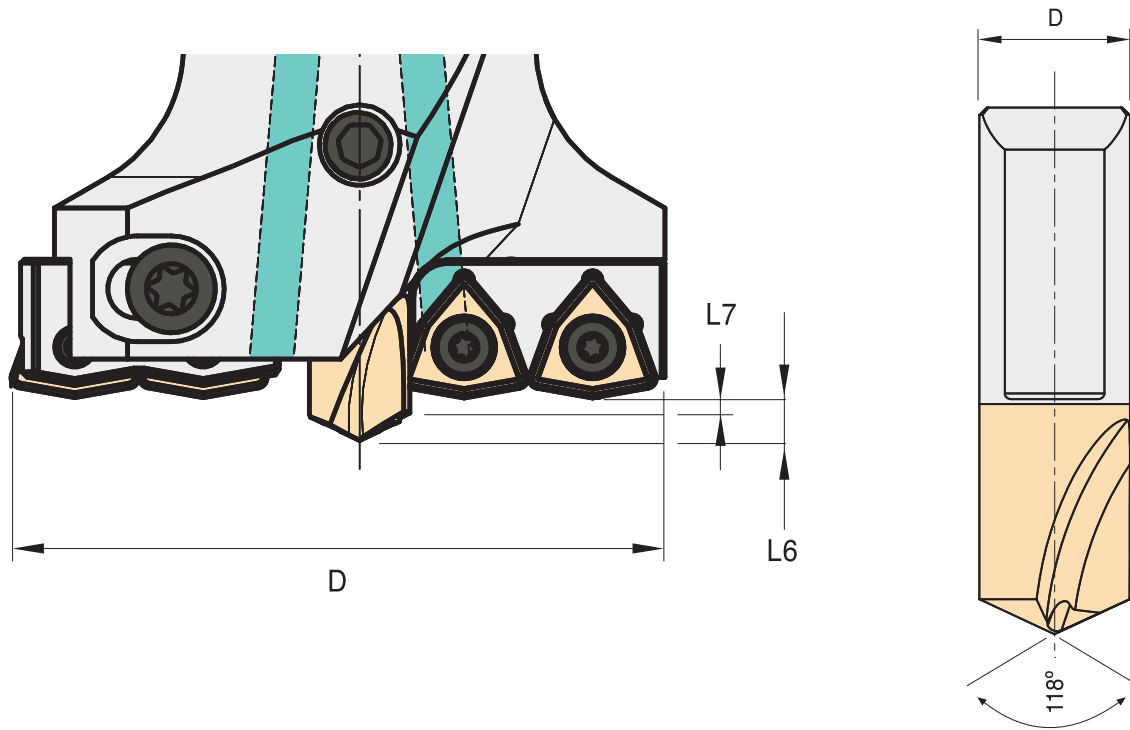
Technical Data

Troubleshooting | Solução de Problemas | Solución de Problemas

Problem	Corrective Action	Possível Solução	Solución Possible
<p>PILOT DRILL CRACKING</p> 	<p>On Lathes:</p> <ul style="list-style-type: none"> Verify that the tool is centered correctly. Readjust machine, if necessary. Check clamping accuracy (tool and workpiece). 	<p>Em Tornos:</p> <ul style="list-style-type: none"> Verifique se a ferramenta está centrada correctamente. Reajustar a máquina caso necessário. Verifique a precisão do aperto (ferramento e peça). 	<p>Tornos en:</p> <ul style="list-style-type: none"> Compruebe que la herramienta se centra correctamente. Reajustar la máquina, si es necesario. Verificar la precisión de sujeción (herramienta y pieza de trabajo) para una posible mejora.
<p>INNER INSERT CRACKING</p> 	<ul style="list-style-type: none"> Use tougher carbide grade. Reduce feed by 20%. Check clamping accuracy (tool and workpiece) for possible improvement. 	<ul style="list-style-type: none"> Use classes de graus mais duras. Reduza o avanço em 20%. Verifique a precisão do aperto (ferramento e peça). 	<ul style="list-style-type: none"> Uso más duras de carburo de grado. Reducción de los piensos en un 20%. Verificar la precisión de sujeción (herramienta y pieza de trabajo) para una posible mejora.
<p>OUTER INSERT CRACKING</p> 	<ul style="list-style-type: none"> Use tougher carbide grade and / or stronger insert geometry. Reduce feed by 20% When drilling through, reduce feed by 50%. Check clamping accuracy (tool and workpiece) for possible improvement. 	<ul style="list-style-type: none"> Use classes de graus mais duras. Reduza o avanço em 20%. Verifique a precisão do aperto (ferramento e peça). 	<ul style="list-style-type: none"> Uso más duras de carburo de grado. Reducción de los piensos en un 20%. Verificar la precisión de sujeción (herramienta y pieza de trabajo) para una posible mejora.
<p>EXTENSIVE PILOT DRILL WEAR</p> 	<ul style="list-style-type: none"> Use coated carbide pilot drill. Increase coolant pressure and volume. Reduce cutting speed by 20%. 	<ul style="list-style-type: none"> Utilize uma broca piloto revestida. Aumente a pressão e o volume do líquido de refrigeração. Reduzir a velocidade de corte em 20%. 	<ul style="list-style-type: none"> Utilice broca piloto revestida. Aumentar la presión del refrigerante y el volumen. Reducir la velocidad de corte en un 20%.
<p>EXCESSIVE INSERT WEAR</p> 	<p>On Lathes:</p> <ul style="list-style-type: none"> Use a more wear-resistant carbide grade. Increase coolant pressure and volume. Reduce cutting speed by 20%. 	<p>Em Tornos:</p> <ul style="list-style-type: none"> Utilize um grau mais resistente ao desgaste. Aumente a pressão e o volume do líquido de refrigeração. Reduza a velocidade de corte em 20%. 	<p>Tornos en:</p> <ul style="list-style-type: none"> Utilice un más resistentes al desgaste de carburo de grado. Aumentar la presión del refrigerante y el volumen. Reducir la velocidad de corte en un 20%.
<p>CHIP BREAKING NOT OPTIMAL</p> 	<ul style="list-style-type: none"> Optimize chip control for given application. Increase cutting speed by 20%; reduce feed by 20%. 	<ul style="list-style-type: none"> Optimizar a evacuação da apara para cada operação. Aumentar a velocidade de corte em 20% e reduzir o avanço em 20%. 	<ul style="list-style-type: none"> Optimizar el control de chip aplicación dada. Aumentar la velocidad de corte en un 20%, reducir la alimentación en un 20%.
<p>CHIP EVACUATION NOT OPTIMAL, POOR DRILL HOLE QUALITY</p> 	<ul style="list-style-type: none"> Increase coolant pressure and volume. Increase cutting speed by 20%. 	<ul style="list-style-type: none"> Aumentar o volume e a pressão do líquido de refrigeração. Aumentar a velocidade de corte em 20%. 	<ul style="list-style-type: none"> Aumentar la presión del refrigerante y el volumen. Aumentar la velocidad de corte en un 20%.

Cutting Parameters and Adjustments | Parâmetros de Corte e Ajustes | Condiciones de Corte e Ajustes

Pilot Drill Adjustment | Ajuste da Broca Piloto | Ajuste de la Broca Piloto



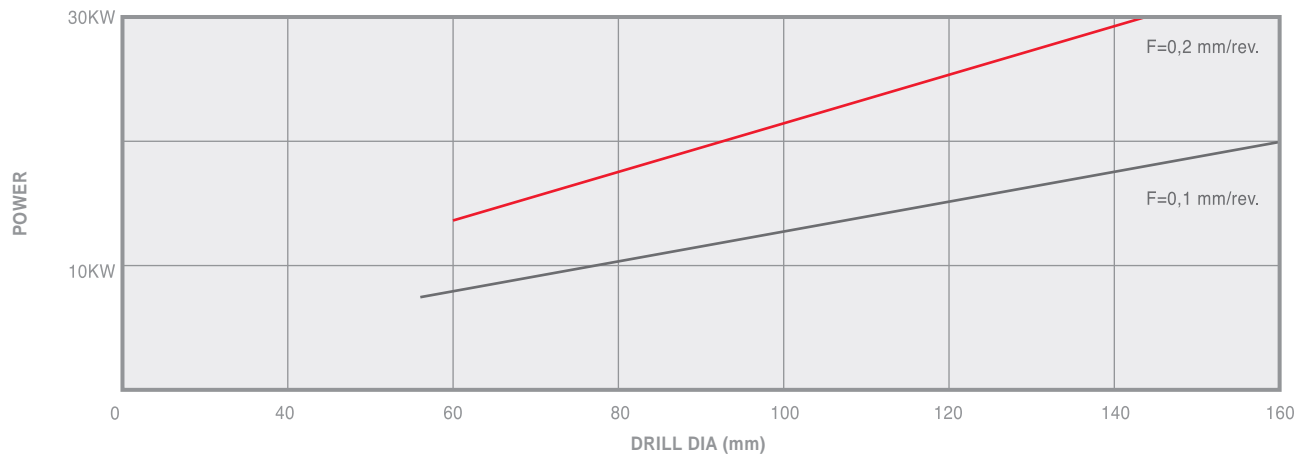
Dc (mm)	2D to 4D		4D to 6D		> 6D	
	L7	L6	L7	L6	L7	L6
45-55	1,6	4,0	1,8	4,2	2,0	4,4
55-75	1,8	5,4	2,0	5,6	2,2	5,8
75-100	2,2	6,5	2,5	6,8	2,8	7,1
100-120	2,4	7,7	2,8	8,1	3,2	8,5
120-170	3,2	9,9	3,6	10,3	4,0	10,7
170-180	3,5	12,2	3,9	12,6	4,3	13,0

Cutting Parameters and Adjustments | Parâmetros de Corte e Ajustes | Condiciones de Corte e Ajustes

Recommended Speeds and Feeds | Parâmetros de Corte Recomendados Recomendaciones de Datos de Corte

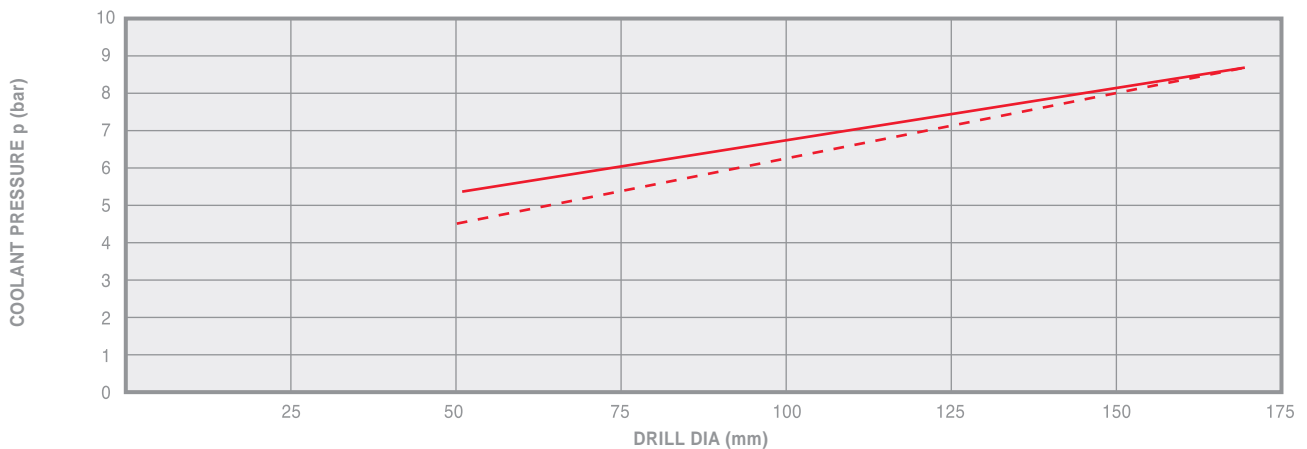
ISO	MATERIAL GROUP	Vc (m/min)	ø45~55	ø55~60	ø60~75	ø75~100	ø100~105	ø105~150	ø150~180
P	UNALLOYED STEEL (-0,25%)	120-180	0,06-0,10	0,07-0,11	0,08-0,12	0,10-0,14	0,14-0,20	0,08-0,12	0,10-0,14
	LOW-ALLOY STEEL (0,25%-)	110-170	0,06-0,10	0,07-0,11	0,08-0,12	0,10-0,14	0,12-0,18	0,08-0,12	0,10-0,14
	LOW-ALLOY STEEL (-HB300)	90-130	0,06-0,10	0,07-0,11	0,08-0,12	0,10-0,14	0,12-0,18	0,08-0,12	0,10-0,14
	HIGH-ALLOY STEEL (HB300-)	60-100	0,05-0,07	0,05-0,07	0,06-0,08	0,06-0,10	0,09-0,13	0,06-0,08	0,06-0,10
M	STAINLESS STEEL	60-110	0,04-0,07	0,04-0,11	0,06-0,12	0,08-0,14	0,10-0,18	0,06-0,12	0,08-0,14
K	GREY CAST IRON	120-180	0,07-0,13	0,07-0,15	0,08-0,16	0,10-0,18	0,12-0,22	0,08-0,16	0,10-0,18
	CAST IRON WITH NODULAR CAST	100-180	0,04-0,13	0,07-0,15	0,08-0,16	0,10-0,25	0,12-0,26	0,08-0,16	0,10-0,25
N	ALUMINUM FORGING ALLOYS	180-280	0,04-0,06	0,07-0,12	0,08-0,13	0,09-0,15	0,12-0,20	0,08-0,13	0,09-0,15
	ALUMINIUM CAST ALLOYS	120-270	0,04-0,06	0,06-0,12	0,08-0,13	0,09-0,15	0,12-0,20	0,08-0,13	0,09-0,15

Power Requirements | Requisitos de Potência | Requisitos de Potencia



• These chart is based on machining experiences using steels with a hardness of 200-250HB and cutting speed of 100m/min.

Coolant Application Chart | Tabela Aplicação de Refrigeração | Tabla Aplicación de Refrigerante



Cutting Parameters and Adjustments | Parâmetros de Corte e Ajustes | Condiciones de Corte e Ajustes

Rules & Tips | Regras e Dicas | Normas e Consejos

WRONG	CORRECT	EN	PT	ES
		<p>Spot Drilling</p> <p>For plain/straight surfaces, no spot drilling is required. For centering, the center drill diameter should be considerably smaller than the pilot drill diameter.</p>	<p>Perfuração Localizada</p> <p>Para superfícies planas a perfuração localizada não é necessária. O diâmetro da broca de pré-furação deve ser consideravelmente menor do que o diâmetro da broca-piloto.</p>	<p>Perforación Localizada</p> <p>Para superficies planas, no se requiere la perforación in situ. Para centrar el diámetro de pré-perforación debe ser considerablemente más pequeño que el diámetro de la broca piloto.</p>
		<p>Spot drilling and drilling through on inclined surfaces.</p> <p>Up to an 8° inclination angle is possible. Drilling through at a maximum of 4° is possible; otherwise, a pre-facing operation is necessary.</p>	<p>Perfuração localizada e perfuração através de superfícies inclinadas.</p> <p>Até 8° ângulo de inclinação é possível. Perfuração até a um máximo de 4° é possível, caso contrário, é necessária uma pré-operação.</p>	<p>Perforación localizada y perforación sobre superficies inclinadas.</p> <p>Hasta un ángulo de inclinación de 8° es posible. A través de la perforación en un máximo de 4° es posible, de otro modo, es necesaria pre-operación.</p>
		<p>Multi-Stage Drill Hole</p> <p>Vortex series drills are not recommended for boring operations. First, use the Integrex drill to drill a larger diameter hole. Then, use a solid carbide drill for smaller holes. Optimum centering of the solid carbide drill is possible on the drill hole of the pilot drill.</p>	<p>Furo Multi-Estágio</p> <p>As brocas Vortex não são recomendadas para operações de mandrilagem. Primeiro utilize a Integrex para o furo de diâmetro maior, então use uma broca Metal Duro Integrex para o furo de diâmetro mais reduzido.</p>	<p>Multi-etapa taladro</p> <p>Las brocas Vortex no son recomendadas para las operaciones de mandrilagen. En primer lugar, utilizar la Integrex para perforar un agujero de diámetro mayor. A continuación, utilice una broca de carburo sólido para los pequeños agujeros. Centrado óptimo del taladro de carburo sólido es posible en el taladro de la broca piloto.</p>
		<p>Drilling of stacked plates</p> <p>This is not possible with Integrex series drills because a final disc forms when the drill breaks through.</p> <p>Caution: During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect all bystanders.</p>	<p>Perfuração de chapas empilhadas</p> <p>Isso não é possível com a Integrex porque um disco final forma-se quando a broca passa</p> <p>Cuidado: Durante operações de trespassar uma placa, uma apara ou disco é produzido quando a broca rompe através da peça. Quando a broca está parada e é a peça rotativa, este disco pode ser arremessado da brecha pela força centrífuga. Proporcionar ade-quada blindagem para proteger todos os transeuntes.</p>	<p>Perforación de placas apiladas</p> <p>Esto no es posible con la Integrex debido a un disco que se forma cuando el taladro a través de las placas.</p> <p>Precaución: Durante las operaciones a través de agujeros, una babosa o disco se produce como la herramienta provocando saltos de la pieza. Cuando la perforación es estacionaria y la pieza está girando, este disco puede ser lanzado desde el plato por la fuerza centrífuga. Proporcionar la protección adecuada para proteger a todos los transeúntes.</p>

B

Drilling

Indexable Insert Drill

Jet Drill

Integrex Drill

Vortex Drill

Trepanning Drill

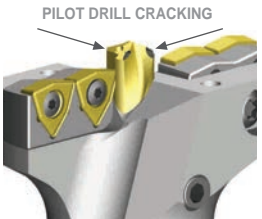
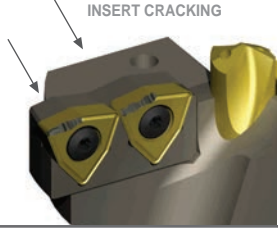
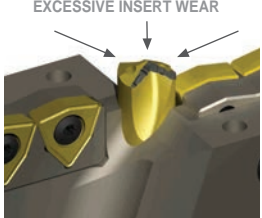


Solid Carbide Drill

Inserts

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Troubleshooting | Solução de Problemas | Solución de Problemas

Problem Problema	Corrective Action	Possível Solução	Solución Possible
 <p>PILOT DRILL CRACKING</p>	<p>On Lathes:</p> <ul style="list-style-type: none"> Verify that the tool is centered correctly. Readjust machine, if necessary. Check clamping accuracy (tool and workpiece) for possible runout. 	<p>Em Tornos:</p> <ul style="list-style-type: none"> Verifique se a ferramenta está centrada correctamente. Reajustar a máquina caso necessário. Verifique a precisão do aperto (ferramento e peça). 	<p>Tornos en:</p> <ul style="list-style-type: none"> Compruebe que la herramienta se centra correctamente. Reajustar la máquina, si es necesario. Verificar la precisión de sujeción (herramienta y pieza de trabajo) para runout posible.
 <p>INSERT CRACKING</p>	<ul style="list-style-type: none"> Use tougher carbide grade. Check clamping accuracy (tool and workpiece) for possible runout. 	<ul style="list-style-type: none"> Use classes de graus mais duras. Verifique a precisão do aperto (ferramento e peça). 	<ul style="list-style-type: none"> Uso más duras de carburo de grado. Verificar la precisión de sujeción (herramienta y pieza de trabajo) para su posible runout.
 <p>EXCESSIVE INSERT WEAR</p>	<ul style="list-style-type: none"> Use coated pilot drill. Increase coolant pressure and volume. Reduce speed by 20% Use wear & resistant carbide grade. 	<ul style="list-style-type: none"> Utilizar uma broca piloto revestida. Aumentar o volume e a pressão do líquido de refrigeração. Reduzir a velocidade de corte em 20%. Utilizar classes de graus mais resistentes ao desgaste. 	<ul style="list-style-type: none"> Utilice broca piloto revestida. Aumentar la presión del refrigerante y el volumen. Reduzca la velocidad en un 20% Utilice el desgaste y resistentes de carburo de grado.
 <p>CHIP BREAKING NOT OPTIMAL</p>	<ul style="list-style-type: none"> Optimize chip control for given application by using diferent chip-breaker geometry. Increase cutting speed by 20%; reduce feed by 20%. 	<ul style="list-style-type: none"> Optimizar o controlo da aparta numa determinada operação outra geometria de quebra aparas. Aumentar a velocidade de corte em 20% e reduzir o avanço em 20%. 	<ul style="list-style-type: none"> Optimizar el control de viruta numa dada aplicación mediante utilizacion de otra geometría quebra viruta Aumentar la velocidad de corte en un 20%, reducir la alimentación en un 20%.
 <p>CHIP EVACUATION NOT OPTIMAL, POOR HOLE QUALITY</p>	<ul style="list-style-type: none"> Increase coolant pressure and volume. Increase cutting speed by 20%. 	<ul style="list-style-type: none"> Aumentar o volume e a pressão do líquido de refrigeração. Aumentar a velocidade de corte em 20%. 	<ul style="list-style-type: none"> Aumentar la presión del refrigerante y el volumen. Aumentar la velocidad de corte un 20%.

SAFETY

Caution:

• During trough-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect all bystanders.

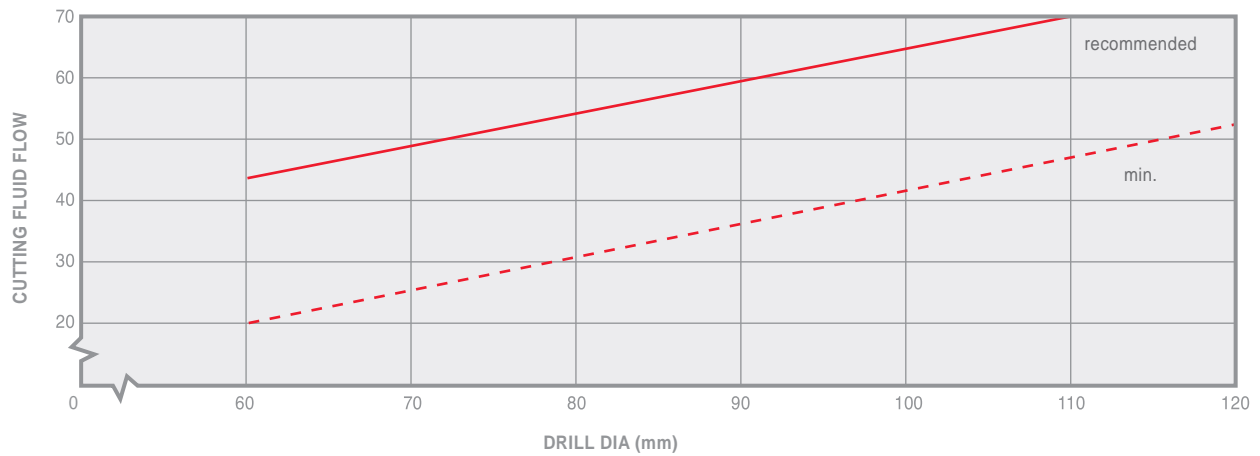
• When drilling through, a small shoulder will be produced on breakthrough as the pilot drill is no longer cutting.

Cutting Parameters and Adjustments | Parâmetros de Corte e Ajustes | Condiciones de Corte e Ajustes

Recommended Speeds and Feeds | Parâmetros de Corte Recomendados Recomendaciones de Datos de Corte

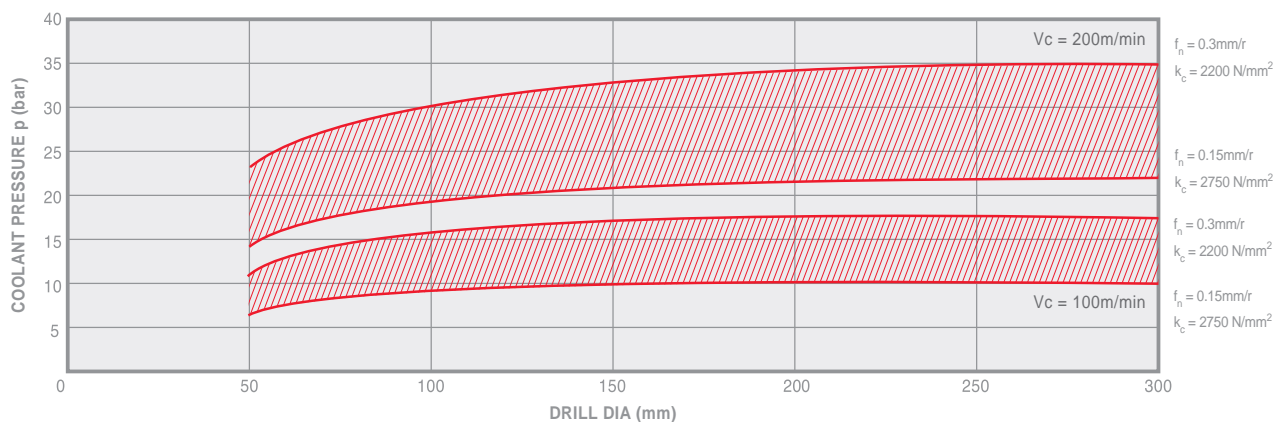
ISO	MATERIAL GROUP	Dc (mm)	Fn (mm/r)	Vc (m/min)
P	UNALLOYED STEEL (-0,25%)	60-110	0,07-0,20	130-345
	LOW-ALLOY STEEL (0,25%-)	60-110	0,10-0,20	100-210
	HIGH-ALLOY STEEL	60-110	0,10-0,20	90-200
	STEEL CASTING	60-110	0,06-0,18	120-280
M	STAINLESS STEEL	60-110	0,10-0,20	100-240
K	GREY CAST IRON	60-110	0,14-0,26	105-280
	CAST IRON WITH NODULAR CAST	60-110	0,14-0,20	110-195
N	ALUMINUM FORGING ALLOYS	60-110	0,12-0,22	250-400
	COPPER AND COPPER ALLOYS	60-110	0,12-0,22	180-350

Power Requirements | Requisitos de Potência | Requisitos de Potencia



• The cutting fluid quantity is measured at the cutting edge of the drill

Coolant Application Chart | Tabela Aplicação de Refrigeração | Tabla Aplicación de Refrigerante

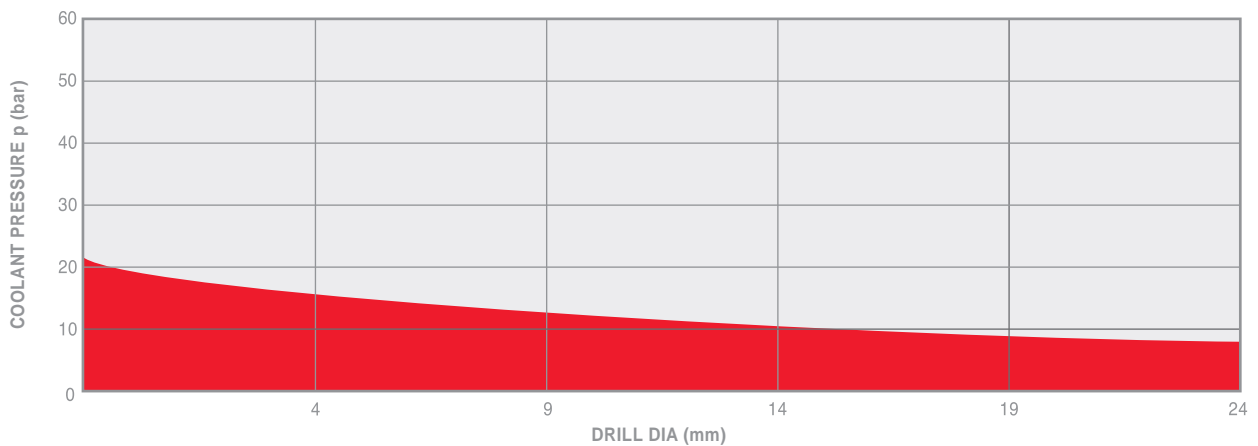


Cutting Parameters and Adjustments | Parâmetros de Corte e Ajustes | Condiciones de Corte e Ajustes

Recommended Speeds and Feeds | Parâmetros de Corte Recomendados Recomendaciones de Datos de Corte

ISO	MATERIAL GROUP	Vc (m/min)	ø3-8mm	ø8~12mm	ø12~16mm	ø16~20mm
P	UNALLOYED STEEL (-0,25%)	80-100	0,10-0,20	0,15-0,25	0,20-0,40	0,25-0,50
	LOW-ALLOY STEEL (0,25%-)	70-100	0,10-0,20	0,20-0,30	0,20-0,35	0,25-0,40
	HIGH-ALLOY STEEL	40-70	0,08-0,15	0,12-0,22	0,20-0,40	0,25-0,40
M	STAINLESS STEEL	35-50	0,08-0,15	0,12-0,25	0,15-0,30	0,20-0,35
K	MALEABLE CAST IRON	70-100	0,10-0,30	0,20-0,40	0,25-0,40	0,25-0,50
	GREY CAST IRON	70-100	0,10-0,25	0,20-0,35	0,30-0,45	0,35-0,55

Coolant Application Chart | Tabela Aplicação de Refrigeração | Tabla Aplicación de Refrigerante



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Troubleshooting | Solução de Problemas | Solución de Problemas

Problem Problema	Cause Fuente Causa	Possible Solution Solución Solução
Heavy wear on the cutting corners Desgaste profundo de los gabilanse Desgaste profundo das arestas de corte	<ul style="list-style-type: none"> Spintering on the cutting corners Astillado en las esquinas de corte Estilhamento das esquinas de corte 	<ul style="list-style-type: none"> Check cooling lubricant. In the case of internal coolant supply, increase coolant pressure. In the case of external coolant supply, adjust positioning of coolant jet. Cool from both sides. Compruebe el lubricante de refrigeración. En caso de suministro de refrigerante interno, aumente la presión del refrigerante. En caso de suministro de refrigerante externo, ajuste el posicionamiento del chorro de refrigerante. Enfríe desde ambos lados. Veja o lubrificante. No caso de fornecimento interno, aumente a pressão da refrigeração, no caso de fornecimento externo, ajuste o posicionamento do jorro do refrigerante, esfrie ambos os lados.
	<ul style="list-style-type: none"> Cutting conditions Condiciones de corte Condições de corte 	<ul style="list-style-type: none"> Reduce cutting speed, increase feed. Reduzca la velocidad de corte, aumente el avance. Reduza a velocidade de corte, aumente o avanço.
Splintering on the chisel edge Astillado del filo de corte transversal Estilhamento do fio de corte transversal	<ul style="list-style-type: none"> Clamping chuck Sistema amarre Sistema de amarre 	<ul style="list-style-type: none"> Check clamping accuracy. Use hydraulic clamping chuck or high-precision chucking system. Compruebe la precisión de la fijación. Utilice una pinza de fijación hidráulica o un sistema de amarre de alta precisión. Comprove a precisão da fixação utilize uma pinça de fixação hidráulica ou um sistema de aperto de alta precisão.
	<ul style="list-style-type: none"> Cutting conditions Condiciones de corte Condições de corte 	<ul style="list-style-type: none"> Increase feed. Aumente el avance. Aumente o avanço.
Built-up edge Recrecimiento del filo de corte Acrescimo do fio de corte	<ul style="list-style-type: none"> Insufficient coolant Refrigerante insuficiente Refrigeração insuficiente 	<ul style="list-style-type: none"> Check cooling lubricant. In the case of internal coolant supply, increase coolant pressure. In the case of external coolant supply, adjust positioning of coolant jet. Cool from both sides. Compruebe el lubricante de refrigeración. En caso de suministro de refrigerante interno, aumente la presión del refrigerante. En caso de suministro de refrigerante externo, ajuste el posicionamiento del chorro de refrigerante. Enfríe desde ambos lados. Veja o lubrificante. No caso de fornecimento interno, aumente a pressão da refrigeração, no caso de fornecimento externo, ajuste o posicionamento do jorro do refrigerante, esfrie ambos lados.
	<ul style="list-style-type: none"> Cutting conditions Condiciones de corte Condições de corte 	<ul style="list-style-type: none"> Increase speed 20-30%. Aumente la velocidad en un 20-30%. Aumente a velocidade em uns 20% a 30%.
Splintering on the cutting edges Astillado del filo de corte principal Estilhamento do fio de corte principal	<ul style="list-style-type: none"> Clamping chuck Sistema amarre Sistema de amarre 	<ul style="list-style-type: none"> Check clamping accuracy and torque transmission. Use hydraulic clamping chuck or high-precision chucking system. Compruebe la precisión de la fijación y la transmisión de par. Utilice una pinza de fijación hidráulica o un sistema de amarre de alta precisión. Comprove a precisão da fixação utilize uma pinça de fixação hidráulica ou um sistema de aperto de alta precisão.
	<ul style="list-style-type: none"> Cutting conditions caused by built-up edge Condiciones de corte provocadas por recrecimiento del filo de corte Condições de corte provocadas por acrescimos no fio de corte 	<ul style="list-style-type: none"> Check cutting values and, possibly increase cutting speed. Examine regularly for built-up edge. Compruebe los valores de corte y a ser posible aumente la velocidad de corte. Examine regularmente el recrecimiento del filo de corte. Veja os valores de corte e a ser possível aumente a velocidade de corte. Examine regularmente o aumento do fio de corte.
Thermal checking / Comb cracking Desgaste / Rotura de los chafilanes Desgaste / Rotura dos chanfros	<ul style="list-style-type: none"> Cutting conditions Condiciones de corte Condições de corte 	<ul style="list-style-type: none"> Inconsistent / insufficient coolant supply. Suministro de refrigerante inconsistente/insuficiente. Fornecimento de refrigeração, inconsistente/insuficiente.
Heavy wear on the cutting corners Desgaste profundo de los chafilanes Desgaste profundo dos chanfros	<ul style="list-style-type: none"> Workpiece movement Movimiento de piezas de trabajo Movimento das peças de trabalho 	<ul style="list-style-type: none"> Stabilize workpiece chucking and check stability of machine tool. Estabilice la fijación de la pieza de trabajo y compruebe la estabilidad de la máquina herramienta. Estabilize a fixação da peça de trabalho e veja a estabilidade da máquina ferramenta.
	<ul style="list-style-type: none"> Insufficient coolant Refrigerante insuficiente Refrigeração insuficiente 	<ul style="list-style-type: none"> Check cooling lubricant. In the case of internal coolant supply, increase coolant pressure. In the case of external coolant supply, adjust positioning of coolant jet. Cool from both sides. Compruebe el lubricante de refrigeración. En caso de suministro de refrigerante interno, aumente la presión del refrigerante. En caso de suministro de refrigerante externo, ajuste el posicionamiento del chorro de refrigerante. Enfríe desde ambos lados. Veja o lubrificante. No caso de fornecimento interno, aumente a pressão da refrigeração, no caso de fornecimento externo, ajuste o posicionamento do jorro do refrigerante, esfrie ambos lados.
	<ul style="list-style-type: none"> Wrong drill Broca incorrecta Broca incorrecta 	<ul style="list-style-type: none"> Check drill type, drilling depth, cooling system, and workpiece material. Compruebe el tipo de broca, la profundidad de taladrado, el sistema de refrigeración y el material de trabajo. Veja o tipo de broca, a profundidade do furo, o sistema de refrigeração e o material de trabalho.
	<ul style="list-style-type: none"> Cutting conditions Condiciones de corte Condições de corte 	<ul style="list-style-type: none"> Check cutting parameters at exit. Reduce feed 15-20% prior to breakout. Revise los parámetros de corte de la salida. Reduzca el avance en un 15-20% antes de la rotura. Revise os parâmetros de corte de saída. Reduza o avanço em uns 15% a 20% antes da rotura.
Hole too big Orificio demasiado grande Furo demasiado grande	<ul style="list-style-type: none"> Cutting conditions Condiciones de corte Condições de corte 	<ul style="list-style-type: none"> Check cutting values, increase cutting speed, or reduce feed. Compruebe los valores de corte, aumente la velocidad de corte o reduzca el avance. Comprove os valores de corte, aumente a velocidade de corte e reduza o avanço.
	<ul style="list-style-type: none"> Clamping chuck Sistema amarre Sistema de amarre 	<ul style="list-style-type: none"> Check clamping accuracy and torque transmission. Use hydraulic clamping chuck or high-precision chucking system. Compruebe la precisión de la fijación y la transmisión de par. Utilice una pinza de fijación hidráulica o un sistema de amarre de alta precisión. Comprove a precisão da fixação utilize uma pinça de fixação hidráulica ou um sistema de aperto de alta precisão.
	<ul style="list-style-type: none"> Wrong drill Broca incorrecta Broca incorrecta 	<ul style="list-style-type: none"> Check drill diameter. Please notice that drills are ground to a positive tolerance. Check concentric running. Compruebe el diámetro de la broca. Asegúrese de que las brocas están conectadas a una tolerancia positiva. Compruebe el funcionamiento concéntrico. Veja o diâmetro da broca. Assegure-se que as brocas estão ligadas a uma tolerância positiva. Comprove que o funcionamento é concêntrico.

B

Drilling

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Vortex Drill

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Problem Problema	Cause Fuente Causa	Possible Solution Solución Solução
Hole too small Orificio demasiado pequeño Furo demasiado pequeno	<ul style="list-style-type: none"> • Insufficient coolant • Refrigerante insuficiente • Refrigeração insuficiente 	<ul style="list-style-type: none"> • Check cooling lubricant. In the case of internal coolant supply, increase coolant pressure. In the case of external coolant supply, adjust positioning of coolant jet. Cool from both sides. • Compruebe el lubricante de refrigeración. En caso de suministro de refrigerante interno, aumente la presión del refrigerante. En caso de suministro de refrigerante externo, ajuste el posicionamiento del chorro de refrigerante. Enfríe desde ambos lados. • Veja o lubrificante. No caso de fornecimento interno, aumente a pressão da refrigeração, no caso de fornecimento externo, ajuste o posicionamento do jorro do refrigerante, esfrie ambos lados.
	<ul style="list-style-type: none"> • Cutting conditions • Condiciones de corte • Condições de corte 	<ul style="list-style-type: none"> • Reduce cutting speed; increase feed. • Reduzca la velocidad de corte, aumente el avance. • Reduza a velocidade de corte, aumente o avanço.
	<ul style="list-style-type: none"> • Wrong drill • Broca incorrecta • Broca incorrecta 	<ul style="list-style-type: none"> • Check cutting-edge diameter. • Compruebe el diámetro del filo de corte. • Veja o diámetro do fio de corte.
Hole not cylindrical Orificio no es recto Furo não está recto	<ul style="list-style-type: none"> • Clamping chuck • Sistema amarre • Sistema de amarre 	<ul style="list-style-type: none"> • Check clamping accuracy and torque transmission. Use hydraulic clamping chuck or high-precision chucking system. • Compruebe la precisión de la fijación y la transmisión de par. Utilice una pinza de fijación hidráulica o un sistema de amarre de alta precisión. • Veja a precisão da fixação e a transmissão do par. Utilize uma pinça de fixação hidráulica ou um sistema de aperto de alta precisão.
	<ul style="list-style-type: none"> • Workpiece movement • Movimiento de piezas de trabajo • Movimento das peças de trabalho 	<ul style="list-style-type: none"> • Stabilize workpiece chucking and check stability of machine tool. • Estabilice la fijación de la pieza de trabajo y compruebe la estabilidad de la máquina herramienta. • Estabilize a fixação da peça de trabalho e veja a estabilidade da máquina ferramenta.
	<ul style="list-style-type: none"> • Wrong drill • Broca incorrecta • Broca incorrecta 	<ul style="list-style-type: none"> • Check drill type and drilling depth. Use longer drills • Compruebe el tipo de broca y la profundidad de taladrado. Utilice brocas más largas. • Veja o tipo de broca e a profundidade do furo. Utilize brocas mais largas.
	<ul style="list-style-type: none"> • Cutting conditions • Condiciones de corte • Condições de corte 	<ul style="list-style-type: none"> • Reduce feed at entry. • Reduzca el avance de la entrada. • Reduza o avanço de entrada.
Drill Breakage Rotura de broca Rotura da broca	<ul style="list-style-type: none"> • Clamping chuck • Sistema amarre • Sistema de amarre 	<ul style="list-style-type: none"> • Check clamping accuracy and torque transmission. Use hydraulic clamping chuck or high-precision chucking system. • Compruebe la precisión de la fijación y la transmisión de par. Utilice una pinza de fijación hidráulica o un sistema de amarre de alta precisión. • Veja a precisão da fixação e a transmissão do par. Utilize uma pinça de fixação hidráulica ou um sistema de aperto de alta precisão.
	<ul style="list-style-type: none"> • Workpiece movement • Movimiento de piezas de trabajo • Movimento das peças de trabalho 	<ul style="list-style-type: none"> • Stabilize workpiece chucking and check stability of machine tool. • Estabilice el amarre de las piezas de trabajo y compruebe la estabilidad de la máquina herramienta. • Estabilize a fixação da peça de trabalho e veja a estabilidade da máquina ferramenta.
	<ul style="list-style-type: none"> • Wrong drill • Broca incorrecta • Broca incorrecta 	<ul style="list-style-type: none"> • Check drill type, drilling depth, cooling system, and workpiece material. • Compruebe el tipo de broca, la profundidad de taladrado, el sistema de refrigeración y el material de trabajo. • Veja o tipo de broca, a profundidade do furo, o sistema de refrigeração e o material de trabalho.
	<ul style="list-style-type: none"> • Insufficient coolant • Refrigerante insuficiente • Refrigeração insuficiente 	<ul style="list-style-type: none"> • Check cooling lubricant. In the case of internal coolant supply, increase coolant pressure. In the case of external coolant supply, adjust positioning of coolant jet. Cool from both sides. • Compruebe el lubricante de refrigeración. En caso de suministro de refrigerante interno, aumente su presión. En caso de suministro de refrigerante externo, ajuste el posicionamiento del chorro del refrigerante. Enfríe desde ambos lados. • Veja o lubrificante. No caso de fornecimento interno, aumente a pressão da refrigeração, no caso de fornecimento externo, ajuste o posicionamento do jorro do refrigerante, esfrie ambos lados.
	<ul style="list-style-type: none"> • Cutting conditions • Condiciones de corte • Condições de corte 	<ul style="list-style-type: none"> • Check cutting values, and possibly reduce feed. • Compruebe los valores de corte y a ser posible reduzca el avance. • Comprue os valores de corte, aumente a velocidade de corte e reduza o avanço.
Splintering on the cutting corners Astillado en las esquinas de corte Estilhaçamento das esquinas de corte	<ul style="list-style-type: none"> • Clamping chuck • Sistema amarre • Sistema de amarre 	<ul style="list-style-type: none"> • Check torque transmission. Use hydraulic clamping chuck or high-precision chucking system. • Compruebe la transmisión de par. Utilice una pinza de fijación hidráulica o un sistema de amarre de alta precisión. • Comprue a transmissão do par. Utilize uma pinça de fixação hidráulica ou um sistema de aperto de alta precisão.
	<ul style="list-style-type: none"> • Workpiece movement • Movimiento de piezas de trabajo • Movimento das peças de trabalho 	<ul style="list-style-type: none"> • Stabilize workpiece chucking and check stability of machine tool. • Estabilize a fixação da peça de trabalho e veja a estabilidade da máquina ferramenta. • Estabilice el amarre de las piezas de trabajo y compruebe la estabilidad de la máquina herramienta.
	<ul style="list-style-type: none"> • Wrong drill • Broca incorrecta • Broca incorrecta 	<ul style="list-style-type: none"> • Check drill type, drilling depth, cooling system, and workpiece material. Possibly, use longer drill. • Compruebe el tipo de broca, la profundidad de taladrado, sistema de refrigeración y material de trabajo. A ser posible, utilice una broca más larga. • Comprue o tipo de broca, a profundidade do furo, sistema de refrigeração e o material de trabalho. A ser possível utilize uma broca mais larga.
	<ul style="list-style-type: none"> • Insufficient coolant • Refrigerante insuficiente • Refrigeração insuficiente 	<ul style="list-style-type: none"> • Check cooling lubricant. In the case of internal coolant supply, increase coolant pressure. In the case of external coolant supply, adjust positioning of coolant jet. Cool from both sides. • Compruebe el lubricante de refrigeración. En caso de suministro de refrigerante interno, aumente su presión. En caso de suministro de refrigerante externo, ajuste el posicionamiento del chorro del refrigerante. Enfríe desde ambos lados. • Veja o lubrificante. No caso de fornecimento interno, aumente a pressão da refrigeração, no caso de fornecimento externo, ajuste o posicionamento do jorro do refrigerante, esfrie ambos lados.
<ul style="list-style-type: none"> • Cutting conditions • Condiciones de corte • Condições de corte 	<ul style="list-style-type: none"> • Check cutting values and possibly reduce feed. • Compruebe los valores de corte y a ser posible reduzca el avance. • Comprue os valores de corte, aumente a velocidade de corte e reduza o avanço. 	