ZCC·CT

High efficiency High precision



New generation U drill

ZSD series

ZHUZHOU CEMENTED CARBIDE
CUTTING TOOLS CO., LTD.



- Adopts unique waved-edge geometry structure, steady cutting and smooth chip evacuation;
- Single insert, double balanced radial run-out control, achieve high hole-making accuracy and precision under long overhang occasion;
- Apply wiper technology, excellent hole surface quality and hole diameter dimension consistency;
- Strong impact-resistance and high rigidity structure design, helping achieving high speed, high efficiency, high stability machining;
- Economical four-edges inserts type, suitable for deep-hole drilling within drill depth range 2D to 5D.



High efficiency U drill

ZSD series



There are three types of geometry, suitable for high efficiency and stability machining in multiple materials.



-EM

Low carbon soft steel geometry, prevents chip-wrap from occurring



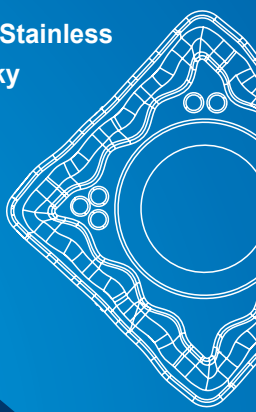
-XM

General-purpose geometry, realizes low resistance stability machining operation



-LM

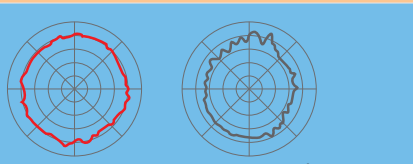
Geometry for Stainless steel and sticky chips steadily



Case 1

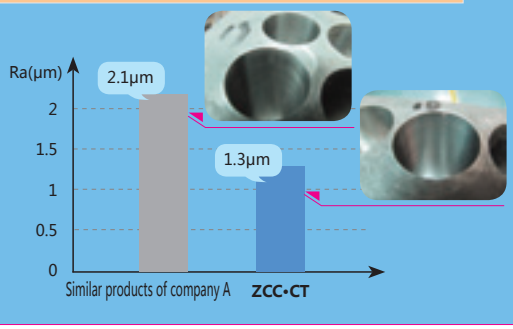
Workpiece material: 45# steel (HB170-220)
Tool: ZSD05-160-XP20-SP05-02
Insert: SPMX050204-XM/YB9320
Cutting data: Vc=120m/minÿf=0.07mm/rÿap=80mm
Cooling: Internal coolant supply

● Aperture cylindricity



Cylindricity	0.03mm	0.15mm

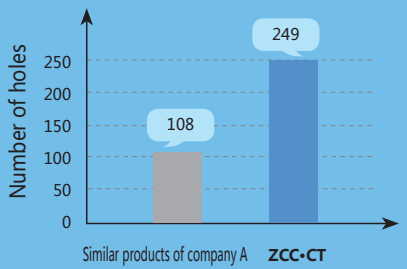
● Hole surface quality



Conclusion: under the same working conditions,the machined hole surface quality by ZSD series U drill contributes to better hole precision than A company's similar products.

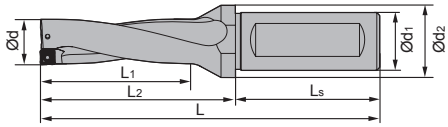
Case 2

Workpiece material: 42CrMo (HB30-35)
Tool : ZSD05-170-XP20-SP05-02
Insert: SPMX050204-XM/YB9320
Cutting data: Vc=120m/min, f=0.07mm/r, ap=80mm
Cooling: Internal coolant supply



U drill ZSD02 2D





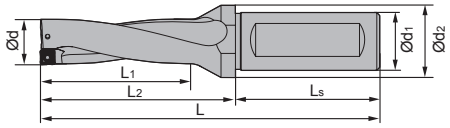
Specification	Stock	Basic dimension(mm)							Compatible inserts	Screw	Wrench
		ØD	ØD1	ØD2	L1	L2	LS	L			
ZSD02-120-XP20-SP04-02	▲	12.0	20	25	27	44	50	94	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD02-125-XP20-SP04-02	▲	12.5	20	25	28	45	50	95	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD02-130-XP20-SP04-02	▲	13.0	20	25	29	46	50	96	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD02-135-XP20-SP04-02	▲	13.5	20	25	30	47	50	97	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD02-140-XP20-SP04-02	▲	14.0	20	25	31	48	50	98	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD02-145-XP20-SP04-02	▲	14.5	20	25	32	49	50	99	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD02-150-XP20-SP05-02	▲	15.0	20	25	33	50	50	100	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD02-155-XP20-SP05-02	▲	15.5	20	25	34	51	50	101	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD02-160-XP20-SP05-02	▲	16.0	20	25	35	52	50	102	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD02-165-XP20-SP05-02	▲	16.5	20	25	36	53	50	103	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD02-170-XP20-SP05-02	▲	17.0	20	25	37	54	50	104	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD02-175-XP20-SP05-02	▲	17.5	20	25	38	55	50	105	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD02-180-XP25-SP06-02	▲	18.0	25	32	39	57	56	113	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD02-185-XP25-SP06-02	▲	18.5	25	32	40	58	56	114	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD02-190-XP25-SP06-02	▲	19.0	25	32	41	59	56	115	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD02-195-XP25-SP06-02	▲	19.5	25	32	42	60	56	116	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD02-200-XP25-SP06-02	▲	20.0	25	32	43	61	56	117	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD02-205-XP25-SP06-02	▲	20.5	25	32	44	62	56	118	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD02-210-XP25-SP06-02	▲	21.0	25	32	45	63	56	119	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD02-215-XP25-SP06-02	▲	21.5	25	32	46	64	56	120	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD02-220-XP25-SP07-02	▲	22.0	25	32	47	65	56	121	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD02-225-XP25-SP07-02	▲	22.5	25	32	48	66	56	122	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD02-230-XP25-SP07-02	▲	23.0	25	32	49	67	56	123	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD02-235-XP25-SP07-02	▲	23.5	25	32	50	68	56	124	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD02-240-XP25-SP07-02	▲	24.0	25	32	51	69	56	125	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD02-245-XP25-SP07-02	▲	24.5	25	32	52	70	56	126	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD02-250-XP25-SP07-02	▲	25.0	25	32	53	71	56	127	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD02-255-XP25-SP07-02	▲	25.5	25	32	54	72	56	128	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD02-260-XP25-SP07-02	▲	26.0	25	32	55	73	56	129	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD02-265-XP25-SP07-02	▲	26.5	25	32	56	74	56	130	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD02-270-XP25-SP07-02	▲	27.0	25	32	57	75	56	131	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD02-275-XP25-SP07-02	▲	27.5	25	32	58	76	56	132	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD02-280-XP32-SP09-02	▲	28.0	32	37	59	79	60	139	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD02-285-XP32-SP09-02	▲	28.5	32	37	60	80	60	140	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD02-290-XP32-SP09-02	▲	29.0	32	37	61	81	60	141	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP

Specification	Stock	Basic dimension(mm)							Compatible inserts	Screw	Wrench
		ØD	ØD1	ØD2	L1	L2	LS	L			
ZSD02-295-XP32-SP09-02	▲	29.5	32	37	62	82	60	142	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD02-300-XP32-SP09-02	▲	30.0	32	37	63	83	60	143	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD02-305-XP32-SP09-02	▲	30.5	32	37	64	84	60	144	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD02-310-XP32-SP09-02	▲	31.0	32	37	65	85	60	145	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD02-315-XP32-SP09-02	▲	31.5	32	37	66	86	60	146	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD02-320-XP32-SP09-02	▲	32.0	32	37	67	87	60	147	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD02-325-XP32-SP09-02	▲	32.5	32	37	68	88	60	148	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD02-330-XP32-SP09-02	▲	33.0	32	37	69	89	60	149	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD02-335-XP32-SP09-02	▲	33.5	32	37	70	90	60	150	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD02-340-XP40-SP11-02	▲	34.0	40	47	71	96	70	166	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-345-XP40-SP11-02	△	34.5	40	47	72	97	70	167	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-350-XP40-SP11-02	▲	35.0	40	47	73	98	70	168	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-355-XP40-SP11-02	△	35.5	40	47	74	99	70	169	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-360-XP40-SP11-02	▲	36.0	40	47	75	100	70	170	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-365-XP40-SP11-02	△	36.5	40	47	76	101	70	171	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-370-XP40-SP11-02	▲	37.0	40	47	77	102	70	172	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-375-XP40-SP11-02	△	37.5	40	47	78	103	70	173	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-380-XP40-SP11-02	▲	38.0	40	47	79	104	70	174	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-385-XP40-SP11-02	△	38.5	40	47	80	105	70	175	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-390-XP40-SP11-02	▲	39.0	40	47	81	106	70	176	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-395-XP40-SP11-02	△	39.5	40	47	82	107	70	177	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-400-XP40-SP11-02	▲	40.0	40	47	83	108	70	178	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-405-XP40-SP11-02	△	40.5	40	47	84	109	70	179	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-410-XP40-SP11-02	▲	41.0	40	47	85	110	70	180	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-415-XP40-SP11-02	△	41.5	40	47	86	111	70	181	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD02-420-XP40-SP14-02	▲	42.0	40	52	87	119	70	189	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-425-XP40-SP14-02	△	42.5	40	52	88	120	70	190	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-430-XP40-SP14-02	▲	43.0	40	52	89	121	70	191	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-435-XP40-SP14-02	△	43.5	40	52	90	122	70	192	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-440-XP40-SP14-02	▲	44.0	40	52	91	123	70	193	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-445-XP40-SP14-02	△	44.5	40	52	92	124	70	194	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-450-XP40-SP14-02	▲	45.0	40	52	93	125	70	195	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-455-XP40-SP14-02	△	45.5	40	52	94	126	70	196	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-460-XP40-SP14-02	▲	46.0	40	52	95	127	70	197	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-465-XP40-SP14-02	△	46.5	40	52	96	128	70	198	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-470-XP40-SP14-02	▲	47.0	40	52	97	129	70	199	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-475-XP40-SP14-02	△	47.5	40	52	98	130	70	200	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-480-XP40-SP14-02	▲	48.0	40	52	99	131	70	201	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-485-XP40-SP14-02	△	48.5	40	52	100	132	70	202	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-490-XP40-SP14-02	▲	49.0	40	52	101	133	70	203	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-495-XP40-SP14-02	△	49.5	40	52	102	134	70	204	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD02-500-XP40-SP14-02	▲	50.0	40	52	103	135	70	205	SPMX140512- XM/LM/EM	I60M5×13	WT20IP

▲Regular Stock △Made-to-order

U drill ZSD03 3D





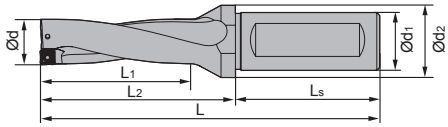
Specification	Stock	Basic dimension(mm)							Compatible inserts	Screw	Wrench
		ØD	ØD1	ØD2	L1	L2	LS	L			
ZSD03-120-XP20-SP04-02	▲	12.0	20	25	39	55	50	105	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD03-125-XP20-SP04-02	▲	12.5	20	25	41	57	50	107	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD03-130-XP20-SP04-02	▲	13.0	20	25	42	58	50	108	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD03-135-XP20-SP04-02	▲	13.5	20	25	44	60	50	110	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD03-140-XP20-SP04-02	▲	14.0	20	25	45	61	50	111	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD03-145-XP20-SP04-02	▲	14.5	20	25	47	63	50	113	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD03-150-XP20-SP05-02	▲	15.0	20	25	48	64	50	114	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD03-155-XP20-SP05-02	▲	15.5	20	25	50	66	50	116	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD03-160-XP20-SP05-02	▲	16.0	20	25	51	67	50	117	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD03-165-XP20-SP05-02	▲	16.5	20	25	53	69	50	119	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD03-170-XP20-SP05-02	▲	17.0	20	25	54	70	50	120	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD03-175-XP20-SP05-02	▲	17.5	20	25	56	72	50	122	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD03-180-XP25-SP06-02	▲	18.0	25	32	57	75	56	131	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD03-185-XP25-SP06-02	▲	18.5	25	32	59	77	56	133	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD03-190-XP25-SP06-02	▲	19.0	25	32	60	78	56	134	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD03-195-XP25-SP06-02	▲	19.5	25	32	62	80	56	136	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD03-200-XP25-SP06-02	▲	20.0	25	32	63	81	56	137	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD03-205-XP25-SP06-02	▲	20.5	25	32	65	83	56	139	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD03-210-XP25-SP06-02	▲	21.0	25	32	66	84	56	140	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD03-215-XP25-SP06-02	▲	21.5	25	32	68	86	56	142	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD03-220-XP25-SP07-02	▲	22.0	25	32	69	87	56	143	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD03-225-XP25-SP07-02	▲	22.5	25	32	71	89	56	145	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD03-230-XP25-SP07-02	▲	23.0	25	32	72	91	56	147	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD03-235-XP25-SP07-02	▲	23.5	25	32	74	93	56	149	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD03-240-XP25-SP07-02	▲	24.0	25	32	75	94	56	150	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD03-245-XP25-SP07-02	▲	24.5	25	32	77	96	56	152	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD03-250-XP25-SP07-02	▲	25.0	25	32	78	97	56	153	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD03-255-XP25-SP07-02	▲	25.5	25	32	80	99	56	155	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD03-260-XP25-SP07-02	▲	26.0	25	32	81	100	56	156	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD03-265-XP25-SP07-02	▲	26.5	25	32	83	102	56	158	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD03-270-XP25-SP07-02	▲	27.0	25	32	84	104	56	160	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD03-275-XP25-SP07-02	▲	27.5	25	32	86	106	56	162	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD03-280-XP32-SP09-02	▲	28.0	32	37	87	109	60	169	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD03-285-XP32-SP09-02	▲	28.5	32	37	89	111	60	171	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD03-290-XP32-SP09-02	▲	29.0	32	37	90	112	60	172	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP

Specification	Stock	Basic dimension(mm)							Compatible inserts	Screw	Wrench
		ØD	ØD1	ØD2	L1	L2	LS	L			
ZSD03-295-XP32-SP09-02	▲	29.5	32	37	92	114	60	174	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD03-300-XP32-SP09-02	▲	30.0	32	37	93	115	60	175	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD03-305-XP32-SP09-02	▲	30.5	32	37	95	117	60	177	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD03-310-XP32-SP09-02	▲	31.0	32	37	96	118	60	178	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD03-315-XP32-SP09-02	▲	31.5	32	37	98	120	60	180	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD03-320-XP32-SP09-02	▲	32.0	32	37	99	121	60	181	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD03-325-XP32-SP09-02	▲	32.5	32	37	101	123	60	183	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD03-330-XP32-SP09-02	▲	33.0	32	37	102	124	60	184	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD03-335-XP32-SP09-02	▲	33.5	32	37	104	126	60	186	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD03-340-XP40-SP11-02	▲	34.0	40	47	105	130	70	200	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-345-XP40-SP11-02	△	34.5	40	47	107	132	70	202	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-350-XP40-SP11-02	▲	35.0	40	47	108	133	70	203	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-355-XP40-SP11-02	△	35.5	40	47	100	135	70	205	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-360-XP40-SP11-02	▲	36.0	40	47	111	136	70	206	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-365-XP40-SP11-02	△	36.5	40	47	113	138	70	208	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-370-XP40-SP11-02	▲	37.0	40	47	114	139	70	209	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-375-XP40-SP11-02	△	37.5	40	47	116	141	70	211	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-380-XP40-SP11-02	▲	38.0	40	47	117	142	70	212	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-385-XP40-SP11-02	△	38.5	40	47	119	144	70	214	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-390-XP40-SP11-02	▲	39.0	40	47	120	145	70	215	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-395-XP40-SP11-02	△	39.5	40	47	122	147	70	217	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-400-XP40-SP11-02	▲	40.0	40	47	123	148	70	218	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-405-XP40-SP11-02	△	40.5	40	47	125	150	70	220	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-410-XP40-SP11-02	▲	41.0	40	47	126	151	70	221	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-415-XP40-SP11-02	△	41.5	40	47	128	153	70	223	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD03-420-XP40-SP14-02	▲	42.0	40	52	129	161	70	231	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-425-XP40-SP14-02	△	42.5	40	52	131	163	70	233	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-430-XP40-SP14-02	▲	43.0	40	52	132	164	70	234	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-435-XP40-SP14-02	△	43.5	40	52	134	166	70	236	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-440-XP40-SP14-02	▲	44.0	40	52	135	167	70	237	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-445-XP40-SP14-02	△	44.5	40	52	137	169	70	239	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-450-XP40-SP14-02	▲	45.0	40	52	138	170	70	240	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-455-XP40-SP14-02	△	45.5	40	52	140	172	70	242	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-460-XP40-SP14-02	▲	46.0	40	52	141	173	70	243	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-465-XP40-SP14-02	△	46.5	40	52	142	175	70	245	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-470-XP40-SP14-02	▲	47.0	40	52	144	176	70	246	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-475-XP40-SP14-02	△	47.5	40	52	146	178	70	248	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-480-XP40-SP14-02	▲	48.0	40	52	147	179	70	249	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-485-XP40-SP14-02	△	48.5	40	52	100	181	70	251	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-490-XP40-SP14-02	▲	49.0	40	52	150	182	70	252	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-495-XP40-SP14-02	△	49.5	40	52	152	184	70	254	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD03-500-XP40-SP14-02	▲	50.0	40	52	153	185	70	255	SPMX140512- XM/LM/EM	I60M5×13	WT20IP

▲Regular Stock △Made-to-order

U drill ZSD04 4D



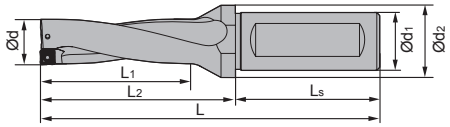


Specification	Stock	Basic dimension(mm)							Compatible inserts	Screw	Wrench
		ØD	ØD1	ØD2	L1	L2	LS	L			
ZSD04-120-XP20-SP04-02	▲	12.0	20	25	51	67	50	117	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD04-125-XP20-SP04-02	▲	12.5	20	25	53	69	50	119	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD04-130-XP20-SP04-02	▲	13.0	20	25	55	71	50	121	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD04-135-XP20-SP04-02	▲	13.5	20	25	57	73	50	123	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD04-140-XP20-SP04-02	▲	14.0	20	25	59	75	50	125	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD04-145-XP20-SP04-02	▲	14.5	20	25	61	77	50	127	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD04-150-XP20-SP05-02	▲	15.0	20	25	63	79	50	129	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD04-155-XP20-SP05-02	▲	15.5	20	25	65	81	50	131	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD04-160-XP20-SP05-02	▲	16.0	20	25	67	83	50	133	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD04-165-XP20-SP05-02	▲	16.5	20	25	69	85	50	135	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD04-170-XP20-SP05-02	▲	17.0	20	25	71	87	50	137	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD04-175-XP20-SP05-02	▲	17.5	20	25	73	89	50	139	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD04-180-XP25-SP06-02	▲	18.0	25	32	75	93	56	149	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD04-185-XP25-SP06-02	▲	18.5	25	32	77	95	56	151	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD04-190-XP25-SP06-02	▲	19.0	25	32	79	97	56	153	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD04-195-XP25-SP06-02	▲	19.5	25	32	81	99	56	155	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD04-200-XP25-SP06-02	▲	20.0	25	32	83	101	56	157	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD04-205-XP25-SP06-02	▲	20.5	25	32	85	103	56	159	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD04-210-XP25-SP06-02	▲	21.0	25	32	87	105	56	161	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD04-215-XP25-SP06-02	▲	21.5	25	32	89	107	56	163	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD04-220-XP25-SP07-02	▲	22.0	25	32	91	109	56	165	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-225-XP25-SP07-02	▲	22.5	25	32	93	111	56	167	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-230-XP25-SP07-02	▲	23.0	25	32	95	114	56	170	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-235-XP25-SP07-02	▲	23.5	25	32	97	116	56	172	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-240-XP25-SP07-02	▲	24.0	25	32	99	118	56	174	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-245-XP25-SP07-02	▲	24.5	25	32	101	120	56	176	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-250-XP25-SP07-02	▲	25.0	25	32	103	122	56	178	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-250-XP32-SP07-02	▲	25.0	32	37	103	122	60	182	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-255-XP25-SP07-02	▲	25.5	25	32	105	125	56	181	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-255-XP32-SP07-02	▲	25.5	32	37	105	125	60	185	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-260-XP25-SP07-02	▲	26.0	25	32	107	126	56	182	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-260-XP32-SP07-02	▲	26.0	32	37	107	126	60	186	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-265-XP25-SP07-02	▲	26.5	25	32	109	128	56	184	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-265-XP32-SP07-02	▲	26.5	32	37	109	128	60	188	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-270-XP25-SP07-02	▲	27.0	25	32	111	131	56	187	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP

Specification	Stock	Basic dimension(mm)							Compatible inserts	Screw	Wrench
		ØD	ØD1	ØD2	L1	L2	LS	L			
ZSD04-270-XP32-SP07-02	▲	27.0	32	37	111	131	60	191	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-275-XP25-SP07-02	▲	27.5	25	32	113	134	56	190	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-275-XP32-SP07-02	▲	27.5	32	37	113	134	60	194	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD04-280-XP32-SP09-02	▲	28.0	32	37	115	139	60	199	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-285-XP32-SP09-02	▲	28.5	32	37	117	141	60	201	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-290-XP32-SP09-02	▲	29.0	32	37	119	143	60	203	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-295-XP32-SP09-02	▲	29.5	32	37	121	145	60	205	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-300-XP32-SP09-02	▲	30.0	32	37	123	147	60	207	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-305-XP32-SP09-02	▲	30.5	32	37	125	149	60	209	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-310-XP32-SP09-02	▲	31.0	32	37	127	151	60	211	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-315-XP32-SP09-02	▲	31.5	32	37	129	153	60	213	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-320-XP32-SP09-02	▲	32.0	32	37	131	155	60	215	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-320-XP40-SP09-02	▲	32.0	40	47	131	155	70	225	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-325-XP32-SP09-02	▲	32.5	32	37	133	157	60	217	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-325-XP40-SP09-02	▲	32.5	40	47	133	157	70	227	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-330-XP32-SP09-02	▲	33.0	32	37	135	159	60	219	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-330-XP40-SP09-02	▲	33.0	40	47	135	159	70	229	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-335-XP32-SP09-02	▲	33.5	32	37	137	161	60	221	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-335-XP40-SP09-02	▲	33.5	40	47	137	161	70	231	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD04-340-XP40-SP11-02	▲	34.0	40	47	139	164	70	234	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-345-XP40-SP11-02	△	34.5	40	47	141	166	70	236	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-350-XP40-SP11-02	▲	35.0	40	47	143	168	70	238	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-355-XP40-SP11-02	△	35.5	40	47	145	170	70	240	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-360-XP40-SP11-02	▲	36.0	40	47	147	172	70	242	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-365-XP40-SP11-02	△	36.5	40	47	149	174	70	244	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-370-XP40-SP11-02	▲	37.0	40	47	151	176	70	246	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-375-XP40-SP11-02	△	37.5	40	47	153	178	70	248	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-380-XP40-SP11-02	▲	38.0	40	47	155	180	70	250	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-385-XP40-SP11-02	△	38.5	40	47	157	182	70	252	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-390-XP40-SP11-02	▲	39.0	40	47	159	184	70	254	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-395-XP40-SP11-02	△	39.5	40	47	161	186	70	256	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-400-XP40-SP11-02	▲	40.0	40	47	163	188	70	258	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-405-XP40-SP11-02	△	40.5	40	47	165	190	70	260	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-410-XP40-SP11-02	▲	41.0	40	47	167	192	70	262	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-415-XP40-SP11-02	△	41.5	40	47	169	194	70	264	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD04-420-XP40-SP14-02	▲	42.0	40	52	171	203	70	273	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-420-XP50-SP14-02	△	42.0	50	57	171	203	80	283	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-425-XP40-SP14-02	△	42.5	40	52	173	205	70	275	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-425-XP50-SP14-02	△	42.5	50	57	173	205	80	285	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-430-XP40-SP14-02	▲	43.0	40	52	175	207	70	277	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-430-XP50-SP14-02	△	43.0	50	57	175	207	80	287	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-435-XP40-SP14-02	△	43.5	40	52	177	209	70	279	SPMX140512- XM/LM/EM	I60M5×13	WT20IP

U drill ZSD04 4D



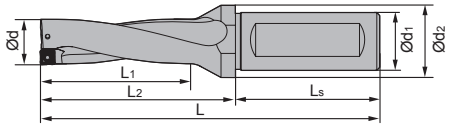


Specification	Stock	Basic dimension(mm)							Compatible inserts	Screw	Wrench
		ØD	ØD1	ØD2	L1	L2	LS	L			
ZSD04-435-XP50-SP14-02	△	43.5	50	57	177	209	80	289	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-440-XP40-SP14-02	▲	44.0	40	52	179	211	70	281	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-440-XP50-SP14-02	△	44.0	50	57	179	211	80	291	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-445-XP40-SP14-02	△	44.5	40	52	181	213	70	283	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-445-XP50-SP14-02	△	44.5	50	57	181	213	80	293	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-450-XP40-SP14-02	▲	45.0	40	52	183	215	70	285	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-450-XP50-SP14-02	△	45.0	50	57	183	225	80	295	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-455-XP40-SP14-02	△	45.5	40	52	185	217	70	287	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-455-XP50-SP14-02	△	45.5	50	57	185	217	80	297	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-460-XP40-SP14-02	▲	46.0	40	52	187	219	70	289	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-460-XP50-SP14-02	△	46.0	50	57	187	219	80	299	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-465-XP40-SP14-02	△	46.5	40	52	189	221	70	291	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-465-XP50-SP14-02	△	46.5	50	57	189	221	80	301	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-470-XP40-SP14-02	▲	47.0	40	52	191	223	70	293	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-470-XP50-SP14-02	△	47.0	50	57	191	223	80	303	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-475-XP40-SP14-02	△	47.5	40	52	193	225	70	295	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-475-XP50-SP14-02	△	47.5	50	57	193	225	80	305	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-480-XP40-SP14-02	▲	48.0	40	52	195	227	70	297	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-480-XP50-SP14-02	△	48.0	50	57	195	227	80	307	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-485-XP40-SP14-02	△	48.5	40	52	197	229	70	299	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-485-XP50-SP14-02	△	48.5	50	57	197	229	80	309	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-490-XP40-SP14-02	▲	49.0	40	52	199	231	70	301	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-490-XP50-SP14-02	△	49.0	50	57	199	231	80	311	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-495-XP40-SP14-02	△	49.5	40	52	201	233	70	303	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-495-XP50-SP14-02	△	49.5	50	57	201	233	80	313	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-500-XP40-SP14-02	▲	50.0	40	52	203	235	70	305	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD04-500-XP50-SP14-02	△	50.0	50	57	203	235	80	315	SPMX140512- XM/LM/EM	I60M5×13	WT20IP

▲Regular Stock △Made-to-order

U drill ZSD05 5D

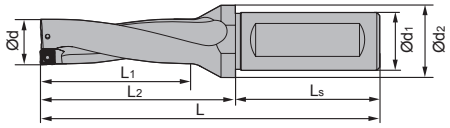




Specification	Stock	Basic dimension(mm)							Compatible inserts	Screw	Wrench
		ØD	ØD1	ØD2	L1	L2	LS	L			
ZSD05-120-XP20-SP04-02	▲	12.0	20	25	63	79	50	129	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD05-125-XP20-SP04-02	▲	12.5	20	25	66	82	50	132	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD05-130-XP20-SP04-02	▲	13.0	20	25	68	84	50	134	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD05-135-XP20-SP04-02	▲	13.5	20	25	71	87	50	137	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD05-140-XP20-SP04-02	▲	14.0	20	25	73	89	50	139	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD05-145-XP20-SP04-02	▲	14.5	20	25	76	91	50	141	SPMX040204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD05-150-XP20-SP05-02	▲	15.0	20	25	78	94	50	144	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD05-155-XP20-SP05-02	▲	15.5	20	25	81	97	50	147	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD05-160-XP20-SP05-02	▲	16.0	20	25	83	99	50	149	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD05-165-XP20-SP05-02	▲	16.5	20	25	86	102	50	152	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD05-170-XP20-SP05-02	▲	17.0	20	25	88	104	50	154	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD05-175-XP20-SP05-02	▲	17.5	20	25	91	107	50	157	SPMX050204-XM/LM/EM	I60M2×4.3	WT06IP
ZSD05-180-XP25-SP06-02	▲	18.0	25	32	93	112	56	167	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD05-185-XP25-SP06-02	▲	18.5	25	32	96	114	56	170	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD05-190-XP25-SP06-02	▲	19.0	25	32	98	116	56	172	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD05-195-XP25-SP06-02	▲	19.5	25	32	101	119	56	175	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD05-200-XP25-SP06-02	▲	20.0	25	32	103	121	56	177	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD05-205-XP25-SP06-02	▲	20.5	25	32	106	124	56	180	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD05-210-XP25-SP06-02	▲	21.0	25	32	108	126	56	182	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD05-215-XP25-SP06-02	▲	21.5	25	32	111	129	56	185	SPMX060204- XM/LM/EM	I60M2.2×5.5	WT07IP
ZSD05-220-XP25-SP07-02	▲	22.0	25	32	113	131	56	187	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-225-XP25-SP07-02	▲	22.5	25	32	116	134	56	190	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-230-XP25-SP07-02	▲	23.0	25	32	118	138	56	194	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-235-XP25-SP07-02	▲	23.5	25	32	121	141	56	197	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-240-XP25-SP07-02	▲	24.0	25	32	123	143	56	199	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-245-XP25-SP07-02	▲	24.5	25	32	126	146	56	202	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-250-XP25-SP07-02	▲	25.0	25	32	128	148	56	204	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-250-XP32-SP07-02	▲	25.0	32	37	128	148	60	208	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-255-XP25-SP07-02	▲	25.5	25	32	131	151	56	207	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-255-XP32-SP07-02	▲	25.5	32	37	131	151	60	211	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-260-XP25-SP07-02	▲	26.0	25	32	133	153	56	209	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-260-XP32-SP07-02	▲	26.0	32	37	133	153	60	213	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-265-XP25-SP07-02	▲	26.5	25	32	136	156	56	212	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-265-XP32-SP07-02	▲	26.5	32	37	136	156	60	216	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-270-XP25-SP07-02	▲	27.0	25	32	138	158	56	214	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP

U drill ZSD05 5D





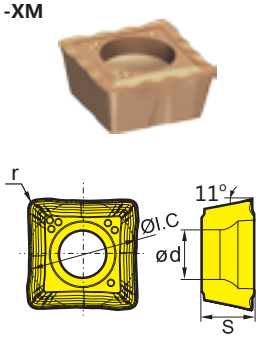
Specification	Stock	Basic dimension(mm)							Compatible inserts	Screw	Wrench
		ØD	ØD1	ØD2	L1	L2	LS	L			
ZSD05-270-XP32-SP07-02	▲	27.0	32	37	138	158	60	218	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-275-XP25-SP07-02	▲	27.5	25	32	141	161	56	217	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-275-XP32-SP07-02	▲	27.5	32	37	141	161	60	221	SPMX07T308- XM/LM/EM	I60M2.5×6.5	WT07IP
ZSD05-280-XP32-SP09-02	▲	28.0	32	37	143	163	60	223	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-285-XP32-SP09-02	▲	28.5	32	37	146	166	60	226	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-290-XP32-SP09-02	▲	29.0	32	37	148	168	60	228	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-295-XP32-SP09-02	▲	29.5	32	37	151	171	60	231	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-300-XP32-SP09-02	▲	30.0	32	37	153	173	60	233	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-305-XP32-SP09-02	▲	30.5	32	37	156	176	60	236	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-310-XP32-SP09-02	▲	31.0	32	37	158	178	60	238	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-315-XP32-SP09-02	▲	31.5	32	37	161	181	60	241	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-320-XP32-SP09-02	▲	32.0	32	37	163	183	60	243	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-320-XP40-SP09-02	▲	32.0	40	47	163	183	70	253	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-325-XP32-SP09-02	▲	32.5	32	37	166	186	60	246	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-325-XP40-SP09-02	▲	32.5	40	47	166	186	70	256	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-330-XP32-SP09-02	▲	33.0	32	37	168	189	60	249	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-330-XP40-SP09-02	▲	33.0	40	47	168	189	70	259	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-335-XP32-SP09-02	▲	33.5	32	37	171	193	60	253	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-335-XP40-SP09-02	▲	33.5	40	47	171	193	70	263	SPMX090408- XM/LM/EM	I60M3.5×8	WT15IP
ZSD05-340-XP40-SP11-02	▲	34.0	40	47	173	198	70	268	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD05-345-XP40-SP11-02	△	34.5	40	47	176	201	70	271	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD05-350-XP40-SP11-02	▲	35.0	40	47	178	203	70	273	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD05-355-XP40-SP11-02	△	35.5	40	47	181	206	70	276	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD05-360-XP40-SP11-02	▲	36.0	40	47	183	208	70	278	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD05-365-XP40-SP11-02	△	36.5	40	47	186	211	70	281	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD05-370-XP40-SP11-02	▲	37.0	40	47	188	213	70	283	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD05-375-XP40-SP11-02	△	37.5	40	47	191	216	70	286	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD05-380-XP40-SP11-02	▲	38.0	40	47	193	218	70	288	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD05-385-XP40-SP11-02	△	38.5	40	47	196	221	70	291	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD05-390-XP40-SP11-02	▲	39.0	40	47	198	223	70	293	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD05-395-XP40-SP11-02	△	39.5	40	47	201	226	70	296	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD05-400-XP40-SP11-02	▲	40.0	40	47	203	228	70	298	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD05-405-XP40-SP11-02	△	40.5	40	47	206	231	70	301	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD05-410-XP40-SP11-02	▲	41.0	40	47	208	233	70	303	SPMX110408- XM/LM/EM	I60M4×10	WT15IP
ZSD05-415-XP40-SP11-02	△	41.5	40	47	211	236	70	306	SPMX110408- XM/LM/EM	I60M4×10	WT15IP

Specification	Stock	Basic dimension(mm)							Compatible inserts	Screw	Wrench
		ØD	ØD1	ØD2	L1	L2	LS	L			
ZSD05-420-XP40-SP14-02	▲	42.0	40	52	213	245	70	315	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-420-XP50-SP14-02	△	42.0	50	57	213	245	80	325	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-425-XP40-SP14-02	△	42.5	40	52	216	248	70	318	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-425-XP50-SP14-02	△	42.5	50	57	216	248	80	328	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-430-XP40-SP14-02	▲	43.0	40	52	218	250	70	320	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-430-XP50-SP14-02	△	43.0	50	57	218	250	80	330	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-435-XP40-SP14-02	△	43.5	40	52	221	253	70	323	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-435-XP50-SP14-02	△	43.5	50	57	221	253	80	333	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-440-XP40-SP14-02	▲	44.0	40	52	223	255	70	325	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-440-XP50-SP14-02	△	44.0	50	57	223	255	80	335	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-445-XP40-SP14-02	△	44.5	40	52	226	258	70	328	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-445-XP50-SP14-02	△	45.5	50	57	226	258	80	338	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-450-XP40-SP14-02	▲	45.0	40	52	228	260	70	330	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-450-XP50-SP14-02	△	45.0	50	57	228	260	80	340	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-455-XP40-SP14-02	△	45.5	40	52	231	263	70	333	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-455-XP50-SP14-02	△	45.5	50	57	231	263	80	343	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-460-XP40-SP14-02	▲	46.0	40	52	233	265	70	335	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-460-XP50-SP14-02	△	46.0	50	57	233	265	80	345	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-465-XP40-SP14-02	△	46.5	40	52	236	268	70	338	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-465-XP50-SP14-02	△	46.5	50	57	236	268	80	348	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-470-XP40-SP14-02	▲	47.0	40	52	238	270	70	340	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-470-XP50-SP14-02	△	47.0	50	57	238	270	80	350	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-475-XP40-SP14-02	△	47.5	40	52	241	273	70	343	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-475-XP50-SP14-02	△	47.5	50	57	241	273	80	353	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-480-XP40-SP14-02	▲	48.0	40	52	243	275	70	345	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-480-XP50-SP14-02	△	48.0	50	57	246	275	80	355	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-485-XP40-SP14-02	△	48.5	40	52	246	278	70	348	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-485-XP50-SP14-02	△	48.5	50	57	246	278	80	358	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-490-XP40-SP14-02	▲	49.0	40	52	248	280	70	350	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-490-XP50-SP14-02	△	49.0	50	57	248	280	80	360	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-495-XP40-SP14-02	△	49.5	40	52	251	283	70	353	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-495-XP50-SP14-02	△	49.5	50	57	251	283	80	363	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-500-XP40-SP14-02	▲	50.0	40	52	253	285	70	355	SPMX140512- XM/LM/EM	I60M5×13	WT20IP
ZSD05-500-XP50-SP14-02	△	50.0	50	57	253	285	80	365	SPMX140512- XM/LM/EM	I60M5×13	WT20IP

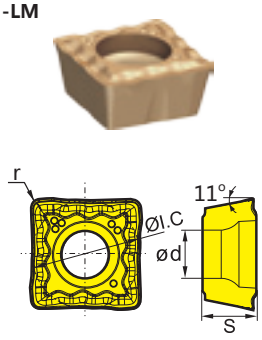
▲Regular Stock △Made-to-order

ZSD Compatible inserts

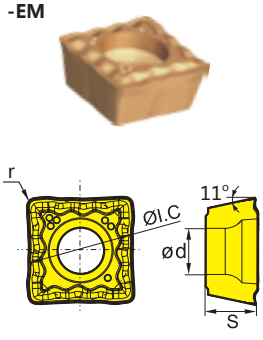
-XM



-LM



-EM

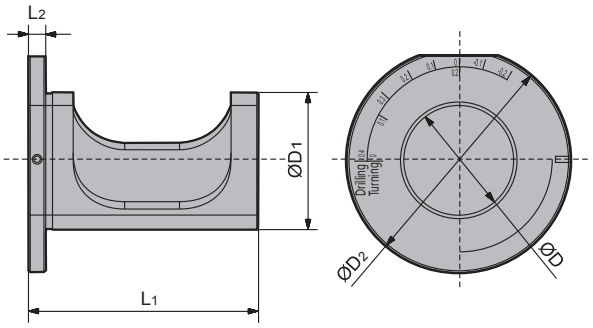


Specification	Basic dimension(mm)				Grade
	I.C	S	Ød	r	YB9320
SPMX040204-XM/LM/EM	4.0	2.38	2.2	0.4	★
SPMX050204-XM/LM/EM	5.0	2.38	2.2	0.4	★
SPMX060204-XM/LM/EM	6.0	2.38	2.5	0.4	★
SPMX07T308-XM/LM/EM	7.94	3.97	2.8	0.8	★
SPMX090408-XM/LM/EM	9.8	4.3	4.1	0.8	★
SPMX110408-XM/LM/EM	11.5	4.76	4.4	0.8	★
SPMX140512-XM/LM/EM	14.3	5.2	5.5	1.2	★

★Recommended grade stock available ●Optional grade stock available ○Made-to-order

Drilling Eccenter Sleeves





Specification	Basic dimension(mm)				
	ØD	ØD1	ØD2	L1	L2
PXT01-20×25	20	25	40	44	5
PXT01-25×32	25	32	50	46	5
PXT01-32×40	32	40	65	67	5
PXT01-40×50	40	50	75	77	5

Cutting data recommendation table for U drill

ISO	Material	Hardness HB	Diameter Dc (mm)	Cutting speed Vc (m/min)	Feed rate f (mm/r)
P	Carbon steel	80-200	12.0-21.5 22.0-33.5 34.0-41.5 42.0-50.0	200(170-240)	0.04-0.09 0.05-0.09 0.06-0.10 0.07-0.11
	Low alloy steel	150-260	12.0-21.5 22.0-33.5 34.0-41.5 42.0-50.0	170(140-220)	0.04-0.09 0.05-0.12 0.06-0.14 0.08-0.16
	High alloy steel	150-320	12.0-21.5 22.0-33.5 34.0-41.5 42.0-50.0	150(120-180)	0.04-0.09 0.05-0.12 0.06-0.16 0.08-0.18
	Cast steel	180-250	12.0-21.5 22.0-33.5 34.0-41.5 42.0-50.0	140(120-170)	0.04-0.08 0.05-0.08 0.06-0.10 0.07-0.11
M	Stainless steel Ferrite Martensite	150-270	12.0-21.5 22.0-33.5 34.0-41.5 42.0-50.0	160(110-230)	0.04-0.09 0.05-0.12 0.06-0.16 0.08-0.18
	Austenitic	150-275	12.0-21.5 22.0-33.5 34.0-41.5 42.0-50.0	140(110-220)	0.04-0.09 0.05-0.11 0.06-0.13 0.08-0.14
K	Malleable iron	150-230	12.0-21.5 22.0-33.5 34.0-41.5 42.0-50.0	160(120-220)	0.04-0.10 0.05-0.14 0.08-0.16 0.10-0.20
	Grey cast iron	150-220	12.0-21.5 22.0-33.5 34.0-41.5 42.0-50.0	200(170-240)	0.04-0.10 0.05-0.14 0.08-0.16 0.10-0.20
	Nodular cast iron	160-250	12.0-21.5 22.0-33.5 34.0-41.5 42.0-50.0	160(130-200)	0.04-0.09 0.05-0.12 0.06-0.14 0.08-0.16
N	Aluminum alloy	60-110	12.0-21.5 22.0-33.5 34.0-41.5 42.0-50.0	300(250-350)	0.04-0.10 0.05-0.14 0.08-0.16 0.10-0.20



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