

Solid Carbide Drill

MPS/MSL

**Innovative flute geometry and
wave type cutting edge.
Multi-purpose drills for precise
and efficient machining.**

NEW

L/D 40 available!

MPS

New type for high
performance drilling.

**Double margin flute
for high machining
accuracy.**

MSL

Unique wave type cutting edge
and special flute geometry for
smooth chip evacuation.

**Continuous feed drilling of deep
holes from L/D = 20 - 30.**



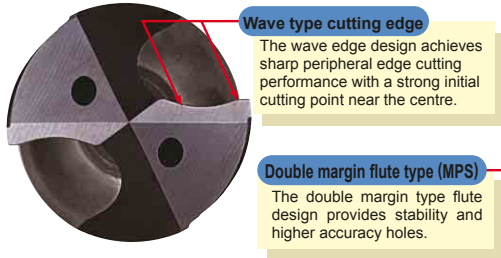
Solid Carbide Drill

MPS/MSL

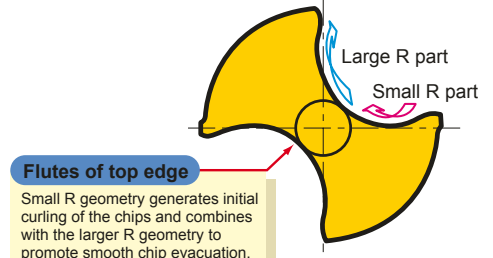
Features

- Wave type cutting edge for superior drilling performance
- Double margin flute for higher accuracy holes (MPS type)
- MIRACLE coated VP15TF for longer tool life

Cutting edge shape

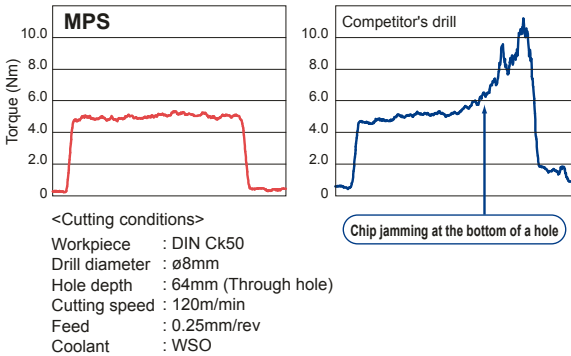


Cross sectional shape



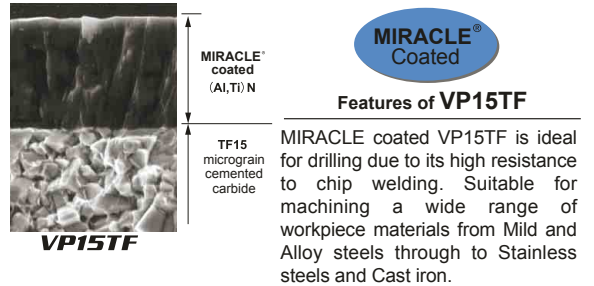
Excellent chip discharge

A special geometry at the top of the flute allows for superior chip control.



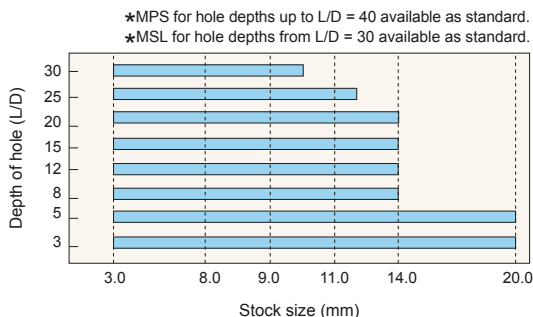
Material technology

- Long tool life **MIRACLE®** coated **VP15TF**



A wide selection of drills

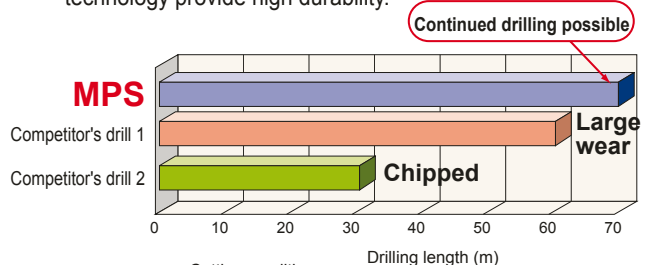
The range includes drills for hole depths from L/D = 3 - 40.



*Selected diameters only, see stock tables for details.
Other diameters produced to order.

Long Tool Life

The special cutting edge geometry and advanced material technology provide high durability.

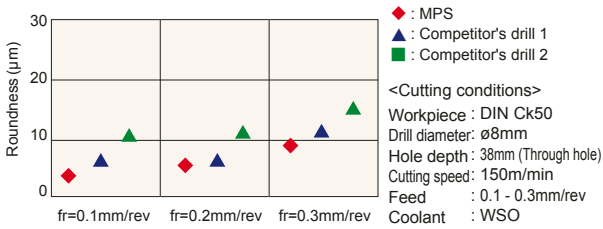


<Cutting conditions>
Workpiece : DIN Ck50
Drill diameter : ø8mm
Hole depth : 38mm (Through hole)
Cutting speed : 140m/min
Feed : 0.3mm/rev
Coolant : WSO

Cutting Performance

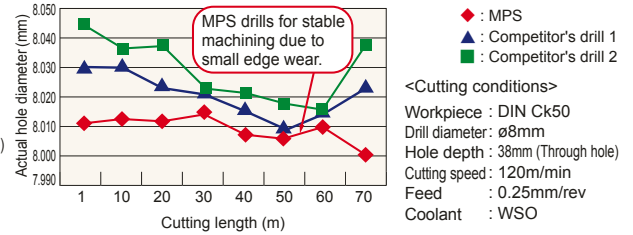
● High accuracy (Roundness)

MPS MSL drills for hole roundness accuracy.



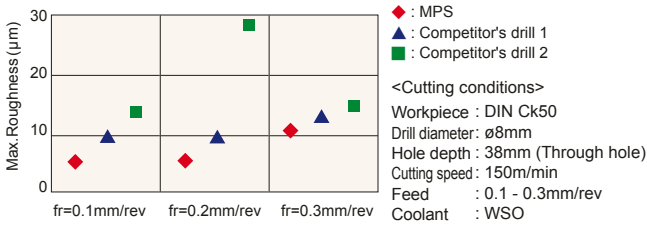
● High accuracy (Actual hole diameter)

The special cutting edge geometry and material technology ensures accurate hole sizes.



● High accuracy (Surface roughness)

MPS/MSL drills for superior hole surface finishes.



Solid Carbide Drill

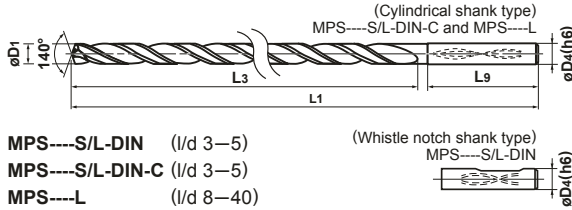
MPS/MSL



D1 Tolerance	3.0 ≤ D1 ≤ 6.0	6.0 < D1 ≤ 10.0	10.0 < D1 ≤ 18.0	18.0 < D1 ≤ 20.0
DIN type	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Others	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* MPS-DIN type see table above. Other MPS/MSL drills h7 tolerance.

● Type A Double margin type



MPS---S/L-DIN (l/d 3-5)
MPS---S/L-DIN-C (l/d 3-5)
MPS---L (l/d 8-40)

● Type B Standard margin type



MSL (l/d 20-30)

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
3.0	3	●		MPS0300S-DIN	62	20	36	6	A
	3	●		MPS0300S-DIN-C	62	20	36	6	A
	5	●		MPS0300L-DIN	66	28	36	6	A
	5	●		MPS0300L-DIN-C	66	28	36	6	A
	8	●		MPS0300-L8C	74	34	36	6	A
	10	□		MPS0300-L10C	80	40	36	6	A
	12	●		MPS0300-L12C	86	46	36	6	A
	15	●		MPS0300-L15C	95	55	36	6	A
	20	□		MPS0300-L20C	110	70	36	6	A
	25	□		MPS0300-L25C	125	85	36	6	A
	30	□		MPS0300-L30C	140	100	36	6	A
	40	●		MPS0300-L40C	174	131	36	6	A
	20	●		MSL0300-L20C	110	70	36	6	B
25	●		MSL0300-L25C	125	85	36	6	B	
30	●		MSL0300-L30C	140	100	36	6	B	
3.05	3	●		MPS0305S-DIN	62	20	36	6	A
	3	●		MPS0305S-DIN-C	62	20	36	6	A
	5	●		MPS0305L-DIN	66	28	36	6	A
	5	●		MPS0305L-DIN-C	66	28	36	6	A
	5	●		MPS0305L-DIN-C	66	28	36	6	A
3.1	3	●		MPS0310S-DIN	62	20	36	6	A
	3	●		MPS0310S-DIN-C	62	20	36	6	A
	5	●		MPS0310L-DIN	66	28	36	6	A
	5	●		MPS0310L-DIN-C	66	28	36	6	A
	8	●		MPS0310-L8C	80	40	36	6	A
	10	□		MPS0310-L10C	87	47	36	6	A
	12	●		MPS0310-L12C	94	54	36	6	A
	15	●		MPS0310-L15C	104	64	36	6	A
	20	□		MPS0310-L20C	122	82	36	6	A
	25	□		MPS0310-L25C	139	99	36	6	A
	30	□		MPS0310-L30C	157	117	36	6	A
40	□		MPS0310-L40C	191	141	36	6	A	
20	●		MSL0310-L20C	122	82	36	6	B	
25	●		MSL0310-L25C	139	99	36	6	B	
30	●		MSL0310-L30C	157	117	36	6	B	
3.2	3	●		MPS0320S-DIN	62	20	36	6	A
	3	●		MPS0320S-DIN-C	62	20	36	6	A
	5	●		MPS0320L-DIN	66	28	36	6	A
	5	●		MPS0320L-DIN-C	66	28	36	6	A
	8	●		MPS0320-L8C	80	40	36	6	A
	10	□		MPS0320-L10C	87	47	36	6	A
	12	●		MPS0320-L12C	94	54	36	6	A
	15	●		MPS0320-L15C	104	64	36	6	A
	3	●		MPS0320S-DIN	62	20	36	6	A
	3	●		MPS0320S-DIN-C	62	20	36	6	A
	5	●		MPS0320L-DIN	66	28	36	6	A
5	●		MPS0320L-DIN-C	66	28	36	6	A	
8	●		MPS0320-L8C	80	40	36	6	A	
10	□		MPS0320-L10C	87	47	36	6	A	
12	●		MPS0320-L12C	94	54	36	6	A	
15	●		MPS0320-L15C	104	64	36	6	A	

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
3.2	20	□		MPS0320-L20C	122	82	36	6	A
	25	□		MPS0320-L25C	139	99	36	6	A
	30	□		MPS0320-L30C	157	117	36	6	A
	40	□		MPS0320-L40C	191	141	36	6	A
	20	●		MSL0320-L20C	122	82	36	6	B
	25	●		MSL0320-L25C	139	99	36	6	B
	30	●		MSL0320-L30C	157	117	36	6	B
3.3	3	●		MPS0330S-DIN	62	20	36	6	A
	3	●		MPS0330S-DIN-C	62	20	36	6	A
	5	●		MPS0330L-DIN	66	28	36	6	A
	5	●		MPS0330L-DIN-C	66	28	36	6	A
	8	●		MPS0330-L8C	80	40	36	6	A
	10	□		MPS0330-L10C	87	47	36	6	A
	12	●		MPS0330-L12C	94	54	36	6	A
	15	●		MPS0330-L15C	104	64	36	6	A
	20	□		MPS0330-L20C	122	82	36	6	A
	25	□		MPS0330-L25C	139	99	36	6	A
	30	□		MPS0330-L30C	157	117	36	6	A
40	□		MPS0330-L40C	191	151	36	6	A	
20	●		MSL0330-L20C	122	82	36	6	B	
25	●		MSL0330-L25C	139	99	36	6	B	
30	●		MSL0330-L30C	157	117	36	6	B	
3.4	3	●		MPS0340S-DIN	62	20	36	6	A
	3	●		MPS0340S-DIN-C	62	20	36	6	A
	5	●		MPS0340L-DIN	66	28	36	6	A
	5	●		MPS0340L-DIN-C	66	28	36	6	A
	8	●		MPS0340-L8C	80	40	36	6	A
	10	□		MPS0340-L10C	87	47	36	6	A
	12	●		MPS0340-L12C	94	54	36	6	A
	15	●		MPS0340-L15C	104	64	36	6	A
	20	□		MPS0340-L20C	122	82	36	6	A
	25	□		MPS0340-L25C	139	99	36	6	A
	30	□		MPS0340-L30C	157	117	36	6	A
40	□		MPS0340-L40C	191	151	36	6	A	
20	●		MSL0340-L20C	122	82	36	6	B	
25	●		MSL0340-L25C	139	99	36	6	B	
30	●		MSL0340-L30C	157	117	36	6	B	

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type	
		VP15TF			L1	L3	L9	D4		
3.5	3	●		MPS0350S-DIN	62	20	36	6	A	
	3	●		MPS0350S-DIN-C	62	20	36	6	A	
	5	●		MPS0350L-DIN	66	28	36	6	A	
	5	●		MPS0350L-DIN-C	66	28	36	6	A	
	8	●		MPS0350-L8C	80	40	36	6	A	
	10	□		MPS0350-L10C	87	47	36	6	A	
	12	●		MPS0350-L12C	94	54	36	6	A	
	15	●		MPS0350-L15C	104	64	36	6	A	
	20	□		MPS0350-L20C	122	82	36	6	A	
	25	□		MPS0350-L25C	139	99	36	6	A	
	30	□		MPS0350-L30C	157	117	36	6	A	
	NEW	40	●		MPS0350-L40C	191	151	36	6	A
	20	●		MSL0350-L20C	122	82	36	6	B	
25	●		MSL0350-L25C	139	99	36	6	B		
30	●		MSL0350-L30C	157	117	36	6	B		
3.6	3	●		MPS0360S-DIN	62	20	36	6	A	
	3	●		MPS0360S-DIN-C	62	20	36	6	A	
	5	●		MPS0360L-DIN	66	28	36	6	A	
	5	●		MPS0360L-DIN-C	66	28	36	6	A	
	8	●		MPS0360-L8C	85	45	36	6	A	
	10	□		MPS0360-L10C	93	53	36	6	A	
	12	●		MPS0360-L12C	101	61	36	6	A	
	15	●		MPS0360-L15C	113	73	36	6	A	
	20	□		MPS0360-L20C	133	93	36	6	A	
	25	□		MPS0360-L25C	153	113	36	6	A	
	30	□		MPS0360-L30C	173	133	36	6	A	
	NEW	40	●		MPS0360-L40C	213	163	36	6	A
	20	●		MSL0360-L20C	133	93	36	6	B	
25	●		MSL0360-L25C	153	113	36	6	B		
30	●		MSL0360-L30C	173	133	36	6	B		
3.7	3	●		MPS0370S-DIN	62	20	36	6	A	
	3	●		MPS0370S-DIN-C	62	20	36	6	A	
	5	●		MPS0370L-DIN	66	28	36	6	A	
	5	●		MPS0370L-DIN-C	66	28	36	6	A	
	8	●		MPS0370-L8C	85	45	36	6	A	
	10	□		MPS0370-L10C	93	53	36	6	A	
	12	●		MPS0370-L12C	101	61	36	6	A	
	15	●		MPS0370-L15C	113	73	36	6	A	
	20	□		MPS0370-L20C	133	93	36	6	A	
	25	□		MPS0370-L25C	153	113	36	6	A	
	30	□		MPS0370-L30C	173	133	36	6	A	
	NEW	40	□		MPS0370-L40C	213	163	36	6	A
	20	●		MSL0370-L20C	133	93	36	6	B	
25	●		MSL0370-L25C	153	113	36	6	B		
30	●		MSL0370-L30C	173	133	36	6	B		
3.8	3	●		MPS0380S-DIN	66	24	36	6	A	
	3	●		MPS0380S-DIN-C	66	24	36	6	A	
	5	●		MPS0380L-DIN	74	36	36	6	A	
	5	●		MPS0380L-DIN-C	74	36	36	6	A	
	8	●		MPS0380-L8C	85	45	36	6	A	
	10	□		MPS0380-L10C	93	53	36	6	A	
	12	●		MPS0380-L12C	101	61	36	6	A	
	15	●		MPS0380-L15C	113	73	36	6	A	
	20	□		MPS0380-L20C	133	93	36	6	A	
	25	□		MPS0380-L25C	153	113	36	6	A	
	30	□		MPS0380-L30C	173	133	36	6	A	

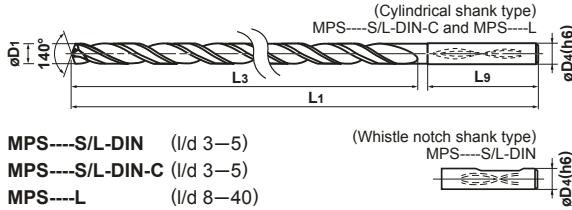
Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type	
		VP15TF			L1	L3	L9	D4		
NEW	40	□		MPS0380-L40C	213	173	36	6	A	
3.8	20	●		MSL0380-L20C	133	93	36	6	B	
	25	●		MSL0380-L25C	153	113	36	6	B	
	30	●		MSL0380-L30C	173	133	36	6	B	
	3	●		MPS0390S-DIN	66	24	36	6	A	
3.9	3	●		MPS0390S-DIN-C	66	24	36	6	A	
	5	●		MPS0390L-DIN	74	36	36	6	A	
	5	●		MPS0390L-DIN-C	74	36	36	6	A	
	8	●		MPS0390-L8C	85	45	36	6	A	
	10	□		MPS0390-L10C	93	53	36	6	A	
	12	●		MPS0390-L12C	101	61	36	6	A	
	15	●		MPS0390-L15C	113	73	36	6	A	
	20	□		MPS0390-L20C	133	93	36	6	A	
	25	□		MPS0390-L25C	153	113	36	6	A	
	30	□		MPS0390-L30C	173	133	36	6	A	
	NEW	40	□		MPS0390-L40C	213	173	36	6	A
	20	●		MSL0390-L20C	133	93	36	6	B	
	25	●		MSL0390-L25C	153	113	36	6	B	
30	●		MSL0390-L30C	173	133	36	6	B		
4.0	3	●		MPS0400S-DIN	66	24	36	6	A	
	3	●		MPS0400S-DIN-C	66	24	36	6	A	
	5	●		MPS0400L-DIN	74	36	36	6	A	
	5	●		MPS0400L-DIN-C	74	36	36	6	A	
	8	●		MPS0400-L8C	85	45	36	6	A	
	10	□		MPS0400-L10C	93	53	36	6	A	
	12	●		MPS0400-L12C	101	61	36	6	A	
	15	●		MPS0400-L15C	113	73	36	6	A	
	20	□		MPS0400-L20C	133	93	36	6	A	
	25	□		MPS0400-L25C	153	113	36	6	A	
	30	□		MPS0400-L30C	173	133	36	6	A	
	NEW	40	●		MPS0400-L40C	213	173	36	6	A
	20	●		MSL0400-L20C	133	93	36	6	B	
25	●		MSL0400-L25C	153	113	36	6	B		
30	●		MSL0400-L30C	173	133	36	6	B		
4.05	3	●		MPS0405S-DIN	66	24	36	6	A	
	3	●		MPS0405S-DIN-C	66	24	36	6	A	
	5	●		MPS0405L-DIN	74	36	36	6	A	
	5	●		MPS0405L-DIN-C	74	36	36	6	A	
	3	●		MPS0410S-DIN	66	24	36	6	A	
4.1	3	●		MPS0410S-DIN-C	66	24	36	6	A	
	5	●		MPS0410L-DIN	74	36	36	6	A	
	5	●		MPS0410L-DIN-C	74	36	36	6	A	
	8	●		MPS0410-L8C	91	51	36	6	A	
	10	□		MPS0410-L10C	100	60	36	6	A	
	12	●		MPS0410-L12C	109	69	36	6	A	
	15	●		MPS0410-L15C	122	82	36	6	A	
	20	□		MPS0410-L20C	145	105	36	6	A	
	25	□		MPS0410-L25C	167	127	36	6	A	
	30	□		MPS0410-L30C	190	150	36	6	A	
	NEW	40	□		MPS0410-L40C	236	186	36	6	A
	20	●		MSL0410-L20C	145	105	36	6	B	
	25	●		MSL0410-L25C	167	127	36	6	B	
30	●		MSL0410-L30C	190	150	36	6	B		

Solid Carbide Drill

MPS/MSL



● Type A Double margin type



MPS---S/L-DIN (l/d 3-5)
MPS---S/L-DIN-C (l/d 3-5)
MPS---L (l/d 8-40)

● Type B Standard margin type



MSL (l/d 20-30)

D1 Tolerance	3.0 ≤ D1 ≤ 6.0	6.0 < D1 ≤ 10.0	10.0 < D1 ≤ 18.0	18.0 < D1 ≤ 20.0
DIN type	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Others	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* MPS-DIN type see table above. Other MPS/MSL drills h7 tolerance.

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock VP15TF	Order Number	Dimensions (mm)				Type	
				L1	L3	L9	D4		
4.2	3	●	MPS0420S-DIN	66	24	36	6	A	
	3	●	MPS0420S-DIN-C	66	24	36	6	A	
	5	●	MPS0420L-DIN	74	36	36	6	A	
	5	●	MPS0420L-DIN-C	74	36	36	6	A	
	8	●	MPS0420-L8C	91	51	36	6	A	
	10	□	MPS0420-L10C	100	60	36	6	A	
	12	●	MPS0420-L12C	109	69	36	6	A	
	15	●	MPS0420-L15C	122	82	36	6	A	
	20	□	MPS0420-L20C	145	105	36	6	A	
	25	□	MPS0420-L25C	167	127	36	6	A	
	30	□	MPS0420-L30C	190	150	36	6	A	
	NEW	40	□	MPS0420-L40C	236	186	36	6	A
4.3	20	●	MSL0420-L20C	145	105	36	6	B	
	25	●	MSL0420-L25C	167	127	36	6	B	
	30	●	MSL0420-L30C	190	150	36	6	B	
	4.4	3	●	MPS0430S-DIN	66	24	36	6	A
		3	●	MPS0430S-DIN-C	66	24	36	6	A
		5	●	MPS0430L-DIN	74	36	36	6	A
		5	●	MPS0430L-DIN-C	74	36	36	6	A
		8	●	MPS0430-L8C	91	51	36	6	A
		10	□	MPS0430-L10C	100	60	36	6	A
		12	●	MPS0430-L12C	109	69	36	6	A
		15	●	MPS0430-L15C	122	82	36	6	A
		20	□	MPS0430-L20C	145	105	36	6	A
25		□	MPS0430-L25C	167	127	36	6	A	
30		□	MPS0430-L30C	190	150	36	6	A	
NEW		40	□	MPS0430-L40C	236	196	36	6	A
4.5	20	●	MSL0430-L20C	145	105	36	6	B	
	25	●	MSL0430-L25C	167	127	36	6	B	
	30	●	MSL0430-L30C	190	150	36	6	B	
	4.6	3	●	MPS0460S-DIN	66	24	36	6	A
		3	●	MPS0460S-DIN-C	66	24	36	6	A
		5	●	MPS0460L-DIN	74	36	36	6	A
		5	●	MPS0460L-DIN-C	74	36	36	6	A
		8	●	MPS0460-L8C	96	55	36	6	A
		10	□	MPS0460-L10C	106	66	36	6	A
		12	●	MPS0460-L12C	116	76	36	6	A
		15	●	MPS0460-L15C	131	91	36	6	A
		20	□	MPS0460-L20C	156	116	36	6	A
25		□	MPS0460-L25C	181	141	36	6	A	
30		□	MPS0460-L30C	206	166	36	6	A	
NEW		40	□	MPS0460-L40C	255	205	36	6	A
4.65	20	●	MSL0460-L20C	156	116	36	6	B	
	25	●	MSL0460-L25C	181	141	36	6	B	
	30	●	MSL0460-L30C	206	166	36	6	B	
	4.65	3	●	MPS0465S-DIN	66	24	36	6	A
		3	●	MPS0465S-DIN-C	66	24	36	6	A
		5	●	MPS0465L-DIN	74	36	36	6	A
		5	●	MPS0465L-DIN-C	74	36	36	6	A
		5	●	MPS0465L-DIN-C	74	36	36	6	A

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock VP15TF	Order Number	Dimensions (mm)				Type	
				L1	L3	L9	D4		
4.4	20	●	MSL0440-L20C	145	105	36	6	B	
	25	●	MSL0440-L25C	167	127	36	6	B	
	30	●	MSL0440-L30C	190	150	36	6	B	
4.5	3	●	MPS0450S-DIN	66	24	36	6	A	
	3	●	MPS0450S-DIN-C	66	24	36	6	A	
	5	●	MPS0450L-DIN	74	36	36	6	A	
	5	●	MPS0450L-DIN-C	74	36	36	6	A	
	8	●	MPS0450-L8C	91	51	36	6	A	
	10	□	MPS0450-L10C	100	60	36	6	A	
	12	●	MPS0450-L12C	109	69	36	6	A	
	15	●	MPS0450-L15C	122	82	36	6	A	
	20	□	MPS0450-L20C	145	105	36	6	A	
	25	□	MPS0450-L25C	167	127	36	6	A	
	30	□	MPS0450-L30C	190	150	36	6	A	
	NEW	40	●	MPS0450-L40C	236	196	36	6	A
4.6	20	●	MSL0450-L20C	145	105	36	6	B	
	25	●	MSL0450-L25C	167	127	36	6	B	
	30	●	MSL0450-L30C	190	150	36	6	B	
	4.65	3	●	MPS0465S-DIN	66	24	36	6	A
		3	●	MPS0465S-DIN-C	66	24	36	6	A
		5	●	MPS0465L-DIN	74	36	36	6	A
		5	●	MPS0465L-DIN-C	74	36	36	6	A
		5	●	MPS0465L-DIN-C	74	36	36	6	A

● : Inventory maintained. □ : Non stock, produced to order only.

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
4.7	3	●		MPS0470S-DIN	66	24	36	6	A
	3	●		MPS0470S-DIN-C	66	24	36	6	A
	5	●		MPS0470L-DIN	74	36	36	6	A
	5	●		MPS0470L-DIN-C	74	36	36	6	A
	8	●		MPS0470-L8C	96	55	36	6	A
	10	□		MPS0470-L10C	106	66	36	6	A
	12	●		MPS0470-L12C	116	76	36	6	A
	15	●		MPS0470-L15C	131	91	36	6	A
	20	□		MPS0470-L20C	156	116	36	6	A
	25	□		MPS0470-L25C	181	141	36	6	A
	30	□		MPS0470-L30C	206	166	36	6	A
	40	□		MPS0470-L40C	255	205	36	6	A
	20	●		MSL0470-L20C	156	116	36	6	B
	25	●		MSL0470-L25C	181	141	36	6	B
30	●		MSL0470-L30C	206	166	36	6	B	
4.8	3	●		MPS0480S-DIN	66	28	36	6	A
	3	●		MPS0480S-DIN-C	66	28	36	6	A
	5	●		MPS0480L-DIN	82	44	36	6	A
	5	●		MPS0480L-DIN-C	82	44	36	6	A
	8	●		MPS0480-L8C	96	55	36	6	A
	10	□		MPS0480-L10C	106	66	36	6	A
	12	●		MPS0480-L12C	116	76	36	6	A
	15	●		MPS0480-L15C	131	91	36	6	A
	20	□		MPS0480-L20C	156	116	36	6	A
	25	□		MPS0480-L25C	181	141	36	6	A
	30	□		MPS0480-L30C	206	166	36	6	A
	40	□		MPS0480-L40C	255	216	36	6	A
	20	●		MSL0480-L20C	156	116	36	6	B
	25	●		MSL0480-L25C	181	141	36	6	B
30	●		MSL0480-L30C	206	166	36	6	B	
4.9	3	●		MPS0490S-DIN	66	28	36	6	A
	3	●		MPS0490S-DIN-C	66	28	36	6	A
	5	●		MPS0490L-DIN	82	44	36	6	A
	5	●		MPS0490L-DIN-C	82	44	36	6	A
	8	●		MPS0490-L8C	96	55	36	6	A
	10	□		MPS0490-L10C	106	66	36	6	A
	12	●		MPS0490-L12C	116	76	36	6	A
	15	●		MPS0490-L15C	131	91	36	6	A
	20	□		MPS0490-L20C	156	116	36	6	A
	25	□		MPS0490-L25C	181	141	36	6	A
	30	□		MPS0490-L30C	206	166	36	6	A
	40	□		MPS0490-L40C	255	216	36	6	A
	20	●		MSL0490-L20C	156	116	36	6	B
	25	●		MSL0490-L25C	181	141	36	6	B
30	●		MSL0490-L30C	206	166	36	6	B	
5.0	3	●		MPS0500S-DIN	66	28	36	6	A
	3	●		MPS0500S-DIN-C	66	28	36	6	A
	5	●		MPS0500L-DIN	82	44	36	6	A
	5	●		MPS0500L-DIN-C	82	44	36	6	A
	8	●		MPS0500-L8C	96	55	36	6	A
	10	□		MPS0500-L10C	106	66	36	6	A
	12	●		MPS0500-L12C	116	76	36	6	A
	15	●		MPS0500-L15C	131	91	36	6	A
	20	□		MPS0500-L20C	156	116	36	6	A
	25	□		MPS0500-L25C	181	141	36	6	A
	30	□		MPS0500-L30C	206	166	36	6	A
	40	□		MPS0500-L40C	255	216	36	6	A
	20	●		MSL0500-L20C	156	116	36	6	B
	25	●		MSL0500-L25C	181	141	36	6	B
30	●		MSL0500-L30C	206	166	36	6	B	

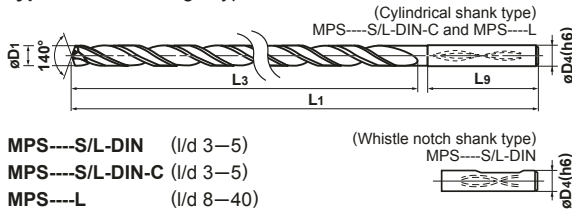
Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
5.0	40	●		MPS0500-L40C	255	216	36	6	A
	20	●		MSL0500-L20C	156	116	36	6	B
	25	●		MSL0500-L25C	181	141	36	6	B
	30	●		MSL0500-L30C	206	166	36	6	B
5.05	3	●		MPS0505S-DIN	66	28	36	6	A
	3	●		MPS0505S-DIN-C	66	28	36	6	A
	5	●		MPS0505L-DIN	82	44	36	6	A
	5	●		MPS0505L-DIN-C	82	44	36	6	A
5.1	3	●		MPS0510S-DIN	66	28	36	6	A
	3	●		MPS0510S-DIN-C	66	28	36	6	A
	5	●		MPS0510L-DIN	82	44	36	6	A
	5	●		MPS0510L-DIN-C	82	44	36	6	A
	8	●		MPS0510-L8C	102	62	36	6	A
	10	□		MPS0510-L10C	113	73	36	6	A
	12	●		MPS0510-L12C	124	84	36	6	A
	15	●		MPS0510-L15C	140	100	36	6	A
	20	□		MPS0510-L20C	168	128	36	6	A
	25	□		MPS0510-L25C	195	155	36	6	A
	30	□		MPS0510-L30C	223	183	36	6	A
	40	□		MPS0510-L40C	279	231	36	6	A
	20	●		MSL0510-L20C	168	128	36	6	B
	25	●		MSL0510-L25C	195	155	36	6	B
30	●		MSL0510-L30C	223	183	36	6	B	
5.2	3	●		MPS0520S-DIN	66	28	36	6	A
	3	●		MPS0520S-DIN-C	66	28	36	6	A
	5	●		MPS0520L-DIN	82	44	36	6	A
	5	●		MPS0520L-DIN-C	82	44	36	6	A
	8	●		MPS0520-L8C	102	62	36	6	A
	10	□		MPS0520-L10C	113	73	36	6	A
	12	●		MPS0520-L12C	124	84	36	6	A
	15	●		MPS0520-L15C	140	100	36	6	A
	20	□		MPS0520-L20C	168	128	36	6	A
	25	□		MPS0520-L25C	195	155	36	6	A
	30	□		MPS0520-L30C	223	183	36	6	A
	40	□		MPS0520-L40C	279	231	36	6	A
	20	●		MSL0520-L20C	168	128	36	6	B
	25	●		MSL0520-L25C	195	155	36	6	B
30	●		MSL0520-L30C	223	183	36	6	B	
5.3	3	●		MPS0530S-DIN	66	28	36	6	A
	3	●		MPS0530S-DIN-C	66	28	36	6	A
	5	●		MPS0530L-DIN	82	44	36	6	A
	5	●		MPS0530L-DIN-C	82	44	36	6	A
	8	●		MPS0530-L8C	102	62	36	6	A
	10	□		MPS0530-L10C	113	73	36	6	A
	12	●		MPS0530-L12C	124	84	36	6	A
	15	●		MPS0530-L15C	140	100	36	6	A
	20	□		MPS0530-L20C	168	128	36	6	A
	25	□		MPS0530-L25C	195	155	36	6	A
	30	□		MPS0530-L30C	223	183	36	6	A
	40	□		MPS0530-L40C	279	241	36	6	A
	20	●		MSL0530-L20C	168	128	36	6	B
	25	●		MSL0530-L25C	195	155	36	6	B
30	●		MSL0530-L30C	223	183	36	6	B	

Solid Carbide Drill

MPS/MSL



● Type A Double margin type



MPS---S/L-DIN (l/d 3-5)

MPS---S/L-DIN-C (l/d 3-5)

MPS---L (l/d 8-40)

D1 Tolerance	3.0≤D1≤6.0	6.0<D1≤10.0	10.0<D1≤18.0	18.0<D1≤20.0
DIN type	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Others	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* MPS-DIN type see table above. Other MPS/MSL drills h7 tolerance.

● Type B Standard margin type



MSL (l/d 20-30)

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock VP15TF	Order Number	Dimensions (mm)				Type
				L1	L3	L9	D4	
5.4	3	●	MPS0540S-DIN	66	28	36	6	A
	3	●	MPS0540S-DIN-C	66	28	36	6	A
	5	●	MPS0540L-DIN	82	44	36	6	A
	5	●	MPS0540L-DIN-C	82	44	36	6	A
	8	●	MPS0540-L8C	102	62	36	6	A
	10	□	MPS0540-L10C	113	73	36	6	A
	12	●	MPS0540-L12C	124	84	36	6	A
	15	●	MPS0540-L15C	140	100	36	6	A
	20	□	MPS0540-L20C	168	128	36	6	A
	25	□	MPS0540-L25C	195	155	36	6	A
	30	□	MPS0540-L30C	223	183	36	6	A
	NEW	40	□	MPS0540-L40C	279	241	36	6
20	●	MSL0540-L20C	168	128	36	6	B	
25	●	MSL0540-L25C	195	155	36	6	B	
30	●	MSL0540-L30C	223	183	36	6	B	
5.5	3	●	MPS0550S-DIN	66	28	36	6	A
	3	●	MPS0550S-DIN-C	66	28	36	6	A
	5	●	MPS0550L-DIN	82	44	36	6	A
	5	●	MPS0550L-DIN-C	82	44	36	6	A
	8	●	MPS0550-L8C	102	62	36	6	A
	10	□	MPS0550-L10C	113	73	36	6	A
	12	●	MPS0550-L12C	124	84	36	6	A
	15	●	MPS0550-L15C	140	100	36	6	A
	20	□	MPS0550-L20C	168	128	36	6	A
	25	□	MPS0550-L25C	195	155	36	6	A
	30	□	MPS0550-L30C	223	183	36	6	A
	NEW	40	●	MPS0550-L40C	279	241	36	6
20	●	MSL0550-L20C	168	128	36	6	B	
25	●	MSL0550-L25C	195	155	36	6	B	
30	●	MSL0550-L30C	223	183	36	6	B	
5.55	3	●	MPS0555S-DIN	66	28	36	6	A
	3	●	MPS0555S-DIN-C	66	28	36	6	A
	5	●	MPS0555L-DIN	82	44	36	6	A
	5	●	MPS0555L-DIN-C	82	44	36	6	A
5.6	3	●	MPS0560S-DIN	66	28	36	6	A
	3	●	MPS0560S-DIN-C	66	28	36	6	A
	5	●	MPS0560L-DIN	82	44	36	6	A
	5	●	MPS0560L-DIN-C	82	44	36	6	A
	8	●	MPS0560-L8C	107	67	36	6	A
	10	□	MPS0560-L10C	119	79	36	6	A
	12	●	MPS0560-L12C	131	91	36	6	A
15	●	MPS0560-L15C	149	109	36	6	A	

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock VP15TF	Order Number	Dimensions (mm)				Type	
				L1	L3	L9	D4		
5.6	20	□	MPS0560-L20C	179	139	36	6	A	
	25	□	MPS0560-L25C	209	169	36	6	A	
	30	□	MPS0560-L30C	239	199	36	6	A	
	NEW	40	□	MPS0560-L40C	299	251	36	6	A
	20	●	MSL0560-L20C	179	139	36	6	B	
	25	●	MSL0560-L25C	209	169	36	6	B	
30	●	MSL0560-L30C	239	199	36	6	B		
5.7	3	●	MPS0570S-DIN	66	28	36	6	A	
	3	●	MPS0570S-DIN-C	66	28	36	6	A	
	5	●	MPS0570L-DIN	82	44	36	6	A	
	5	●	MPS0570L-DIN-C	82	44	36	6	A	
	8	●	MPS0570-L8C	107	67	36	6	A	
	10	□	MPS0570-L10C	119	79	36	6	A	
	12	●	MPS0570-L12C	131	91	36	6	A	
	15	●	MPS0570-L15C	149	109	36	6	A	
	20	□	MPS0570-L20C	179	139	36	6	A	
	25	□	MPS0570-L25C	209	169	36	6	A	
	30	□	MPS0570-L30C	239	199	36	6	A	
	NEW	40	□	MPS0570-L40C	299	251	36	6	A
20	●	MSL0570-L20C	179	139	36	6	B		
25	●	MSL0570-L25C	209	169	36	6	B		
30	●	MSL0570-L30C	239	199	36	6	B		
5.8	3	●	MPS0580S-DIN	66	28	36	6	A	
	3	●	MPS0580S-DIN-C	66	28	36	6	A	
	5	●	MPS0580L-DIN	82	44	36	6	A	
	5	●	MPS0580L-DIN-C	82	44	36	6	A	
	8	●	MPS0580-L8C	107	67	36	6	A	
	10	□	MPS0580-L10C	119	79	36	6	A	
	12	●	MPS0580-L12C	131	91	36	6	A	
	15	●	MPS0580-L15C	149	109	36	6	A	
	20	□	MPS0580-L20C	179	139	36	6	A	
	25	□	MPS0580-L25C	209	169	36	6	A	
	30	□	MPS0580-L30C	239	199	36	6	A	
	NEW	40	□	MPS0580-L40C	299	261	36	6	A
20	●	MSL0580-L20C	179	139	36	6	A		
25	●	MSL0580-L25C	209	169	36	6	B		
30	●	MSL0580-L30C	239	199	36	6	B		
5.9	3	●	MPS0590S-DIN	66	28	36	6	A	
	3	●	MPS0590S-DIN-C	66	28	36	6	A	
	5	●	MPS0590L-DIN	82	44	36	6	A	
	5	●	MPS0590L-DIN-C	82	44	36	6	A	
	8	●	MPS0590-L8C	107	67	36	6	A	

● : Inventory maintained. □ : Non stock, produced to order only.

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
5.9	10	□		MPS0590-L10C	119	79	36	6	A
	12	●		MPS0590-L12C	131	91	36	6	A
	15	●		MPS0590-L15C	149	109	36	6	A
	20	□		MPS0590-L20C	179	139	36	6	A
	25	□		MPS0590-L25C	209	169	36	6	A
	30	□		MPS0590-L30C	239	199	36	6	A
	NEW 40	□		MPS0590-L40C	299	261	36	6	A
	20	●		MSL0590-L20C	179	139	36	6	B
	25	●		MSL0590-L25C	209	169	36	6	B
30	●		MSL0590-L30C	239	199	36	6	B	
6.0	3	●		MPS0600S-DIN	66	28	36	6	A
	3	●		MPS0600S-DIN-C	66	28	36	6	A
	5	●		MPS0600L-DIN	82	44	36	6	A
	5	●		MPS0600L-DIN-C	82	44	36	6	A
	8	●		MPS0600-L8C	107	67	36	6	A
	10	□		MPS0600-L10C	119	79	36	6	A
	12	●		MPS0600-L12C	131	91	36	6	A
	15	●		MPS0600-L15C	149	109	36	6	A
	20	□		MPS0600-L20C	179	139	36	6	A
	25	□		MPS0600-L25C	209	169	36	6	A
	30	□		MPS0600-L30C	239	199	36	6	A
	NEW 40	●		MPS0600-L40C	299	261	36	6	A
20	●		MSL0600-L20C	179	139	36	6	B	
25	●		MSL0600-L25C	209	169	36	6	B	
30	●		MSL0600-L30C	239	199	36	6	B	
6.05	3	●		MPS0605S-DIN	79	34	36	8	A
	3	●		MPS0605S-DIN-C	79	34	36	8	A
	5	●		MPS0605L-DIN	91	53	36	8	A
	5	●		MPS0605L-DIN-C	91	53	36	8	A
6.1	3	●		MPS0610S-DIN	79	34	36	8	A
	3	●		MPS0610S-DIN-C	79	34	36	8	A
	5	●		MPS0610L-DIN	91	53	36	8	A
	5	●		MPS0610L-DIN-C	91	53	36	8	A
	8	●		MPS0610-L8C	113	73	36	8	A
	10	□		MPS0610-L10C	126	86	36	8	A
	12	●		MPS0610-L12C	139	99	36	8	A
	15	●		MPS0610-L15C	158	118	36	8	A
	20	□		MPS0610-L20C	191	151	36	8	A
	25	□		MPS0610-L25C	223	183	36	8	A
	30	□		MPS0610-L30C	256	216	36	8	A
	NEW 40	□		MPS0610-L40C	321	271	36	8	A
20	●		MSL0610-L20C	191	151	36	8	B	
25	●		MSL0610-L25C	223	183	36	8	B	
30	●		MSL0610-L30C	256	216	36	8	B	
6.2	3	●		MPS0620S-DIN	79	34	36	8	A
	3	●		MPS0620S-DIN-C	79	34	36	8	A
	5	●		MPS0620L-DIN	91	53	36	8	A
	5	●		MPS0620L-DIN-C	91	53	36	8	A
	8	●		MPS0620-L8C	113	76	36	8	A
	10	□		MPS0620-L10C	126	86	36	8	A
	12	●		MPS0620-L12C	139	99	36	8	A
	15	●		MPS0620-L15C	158	118	36	8	A
	20	□		MPS0620-L20C	191	151	36	8	A
	25	□		MPS0620-L25C	223	183	36	8	A
	30	□		MPS0620-L30C	256	216	36	8	A
	NEW 40	□		MPS0620-L40C	321	271	36	8	A

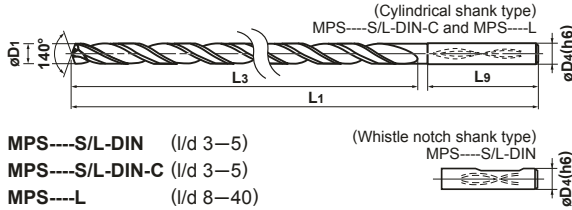
Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
6.2	20	●		MSL0620-L20C	191	151	36	8	B
	25	●		MSL0620-L25C	223	183	36	8	B
	30	●		MSL0620-L30C	256	216	36	8	B
6.3	3	●		MPS0630S-DIN	79	34	36	8	A
	3	●		MPS0630S-DIN-C	79	34	36	8	A
	5	●		MPS0630L-DIN	91	53	36	8	A
	5	●		MPS0630L-DIN-C	91	53	36	8	A
	8	●		MPS0630-L8C	113	73	36	8	A
	10	□		MPS0630-L10C	126	86	36	8	A
	12	●		MPS0630-L12C	139	99	36	8	A
	15	●		MPS0630-L15C	158	118	36	8	A
	20	□		MPS0630-L20C	191	151	36	8	A
	25	□		MPS0630-L25C	223	183	36	8	A
	30	□		MPS0630-L30C	256	216	36	8	A
	NEW 40	□		MPS0630-L40C	321	281	36	8	A
20	●		MSL0630-L20C	191	151	36	8	B	
25	●		MSL0630-L25C	223	183	36	8	B	
30	●		MSL0630-L30C	256	216	36	8	B	
6.4	3	●		MPS0640S-DIN	79	34	36	8	A
	3	●		MPS0640S-DIN-C	79	34	36	8	A
	5	●		MPS0640L-DIN	91	53	36	8	A
	5	●		MPS0640L-DIN-C	91	53	36	8	A
	8	●		MPS0640-L8C	113	73	36	8	A
	10	□		MPS0640-L10C	126	86	36	8	A
	12	●		MPS0640-L12C	139	99	36	8	A
	15	●		MPS0640-L15C	158	118	36	8	A
	20	□		MPS0640-L20C	191	151	36	8	A
	25	□		MPS0640-L25C	223	183	36	8	A
	30	□		MPS0640-L30C	256	216	36	8	A
	NEW 40	□		MPS0640-L40C	321	281	36	8	A
20	●		MSL0640-L20C	191	151	36	8	B	
25	●		MSL0640-L25C	223	183	36	8	B	
30	●		MSL0640-L30C	256	216	36	8	B	
6.5	3	●		MPS0650S-DIN	79	34	36	8	A
	3	●		MPS0650S-DIN-C	79	34	36	8	A
	5	●		MPS0650L-DIN	91	53	36	8	A
	5	●		MPS0650L-DIN-C	91	53	36	8	A
	8	●		MPS0650-L8C	113	73	36	8	A
	10	□		MPS0650-L10C	126	86	36	8	A
	12	●		MPS0650-L12C	139	99	36	8	A
	15	●		MPS0650-L15C	158	118	36	8	A
	20	□		MPS0650-L20C	191	151	36	8	A
	25	□		MPS0650-L25C	223	183	36	8	A
	30	□		MPS0650-L30C	256	216	36	8	A
	NEW 40	●		MPS0650-L40C	321	281	36	8	A
20	●		MSL0650-L20C	191	151	36	8	B	
25	●		MSL0650-L25C	223	183	36	8	B	
30	●		MSL0650-L30C	256	216	36	8	B	
6.6	3	●		MPS0660S-DIN	79	34	36	8	A
	3	●		MPS0660S-DIN-C	79	34	36	8	A
	5	●		MPS0660L-DIN	91	53	36	8	A
	5	●		MPS0660L-DIN-C	91	53	36	8	A
	8	●		MPS0660-L8C	118	78	36	8	A
	10	□		MPS0660-L10C	132	92	36	8	A
	12	●		MPS0660-L12C	146	106	36	8	A
	15	●		MPS0660-L15C	167	127	36	8	A

Solid Carbide Drill

MPS/MSL



● Type A Double margin type



● Type B Standard margin type



MSL (l/d 20-30)

D1 Tolerance	3.0 ≤ D1 ≤ 6.0	6.0 < D1 ≤ 10.0	10.0 < D1 ≤ 18.0	18.0 < D1 ≤ 20.0
DIN type	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Others	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* MPS-DIN type see table above. Other MPS/MSL drills h7 tolerance.

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock VP15TF	Order Number	Dimensions (mm)				Type
				L1	L3	L9	D4	
6.6	20	<input type="checkbox"/>	MPS0660-L20C	202	162	36	8	A
	25	<input type="checkbox"/>	MPS0660-L25C	237	197	36	8	A
	30	<input type="checkbox"/>	MPS0660-L30C	272	232	36	8	A
6.7	40	<input type="checkbox"/>	MPS0660-L40C	341	301	36	8	A
	20	●	MSL0660-L20C	202	162	36	8	B
	25	●	MSL0660-L25C	237	197	36	8	B
6.8	30	●	MSL0660-L30C	272	232	36	8	B
	3	●	MPS0670S-DIN	79	34	36	8	A
	3	●	MPS0670S-DIN-C	79	34	36	8	A
	5	●	MPS0670L-DIN	91	53	36	8	A
	5	●	MPS0670L-DIN-C	91	53	36	8	A
	8	●	MPS0670-L8C	118	78	36	8	A
	10	<input type="checkbox"/>	MPS0670-L10C	132	92	36	8	A
	12	●	MPS0670-L12C	146	106	36	8	A
	15	●	MPS0670-L15C	167	127	36	8	A
	20	<input type="checkbox"/>	MPS0670-L20C	202	162	36	8	A
	25	<input type="checkbox"/>	MPS0670-L25C	237	197	36	8	A
	30	<input type="checkbox"/>	MPS0670-L30C	272	232	36	8	A
6.9	40	<input type="checkbox"/>	MPS0670-L40C	341	301	36	8	A
	20	●	MSL0670-L20C	202	162	36	8	B
	25	●	MSL0670-L25C	237	197	36	8	B
	30	●	MSL0670-L30C	272	232	36	8	B
	3	●	MPS0680S-DIN	79	34	36	8	A
	3	●	MPS0680S-DIN-C	79	34	36	8	A
	5	●	MPS0680L-DIN	91	53	36	8	A
	5	●	MPS0680L-DIN-C	91	53	36	8	A
	8	●	MPS0680-L8C	118	78	36	8	A
	10	<input type="checkbox"/>	MPS0680-L10C	132	92	36	8	A
	12	●	MPS0680-L12C	146	106	36	8	A
	15	●	MPS0680-L15C	167	127	36	8	A
7.0	20	<input type="checkbox"/>	MPS0680-L20C	202	162	36	8	A
	25	<input type="checkbox"/>	MPS0680-L25C	237	197	36	8	A
	30	<input type="checkbox"/>	MPS0680-L30C	272	232	36	8	A
	40	<input type="checkbox"/>	MPS0680-L40C	341	301	36	8	A
	20	●	MSL0680-L20C	202	162	36	8	B
	25	●	MSL0680-L25C	237	197	36	8	B
	30	●	MSL0680-L30C	272	232	36	8	B
	3	●	MPS0700S-DIN	79	34	36	8	A
	3	●	MPS0700S-DIN-C	79	34	36	8	A
	5	●	MPS0700L-DIN	91	53	36	8	A
	5	●	MPS0700L-DIN-C	91	53	36	8	A
	8	●	MPS0700-L8C	118	78	36	8	A
10	<input type="checkbox"/>	MPS0700-L10C	132	92	36	8	A	
12	●	MPS0700-L12C	146	106	36	8	A	
15	●	MPS0700-L15C	167	127	36	8	A	
7.1	20	<input type="checkbox"/>	MPS0700-L20C	202	162	36	8	A
	25	<input type="checkbox"/>	MPS0700-L25C	237	197	36	8	A
	30	<input type="checkbox"/>	MPS0700-L30C	272	232	36	8	A
	40	<input type="checkbox"/>	MPS0700-L40C	341	301	36	8	A
	20	●	MSL0700-L20C	202	162	36	8	B
	25	●	MSL0700-L25C	237	197	36	8	B
	30	●	MSL0700-L30C	272	232	36	8	B
	3	●	MPS0710S-DIN	79	41	36	8	A
	3	●	MPS0710S-DIN-C	79	41	36	8	A
	5	●	MPS0710L-DIN	91	53	36	8	A
	5	●	MPS0710L-DIN-C	91	53	36	8	A
	8	●	MPS0710-L8C	124	84	36	8	A
10	<input type="checkbox"/>	MPS0710-L10C	139	99	36	8	A	
12	●	MPS0710-L12C	154	114	36	8	A	
15	●	MPS0710-L15C	176	136	36	8	A	
7.1	20	<input type="checkbox"/>	MPS0710-L20C	214	174	36	8	A
	25	<input type="checkbox"/>	MPS0710-L25C	251	211	36	8	A
	30	<input type="checkbox"/>	MPS0710-L30C	289	249	36	8	A
	40	<input type="checkbox"/>	MPS0710-L40C	341	301	36	8	A
	20	●	MSL0710-L20C	214	174	36	8	B
	25	●	MSL0710-L25C	251	211	36	8	B
	30	●	MSL0710-L30C	289	249	36	8	B

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock VP15TF	Order Number	Dimensions (mm)				Type
				L1	L3	L9	D4	
6.9	10	<input type="checkbox"/>	MPS0690-L10C	132	92	36	8	A
	12	●	MPS0690-L12C	146	106	36	8	A
	15	●	MPS0690-L15C	167	127	36	8	A
	20	<input type="checkbox"/>	MPS0690-L20C	202	162	36	8	A
	25	<input type="checkbox"/>	MPS0690-L25C	237	197	36	8	A
	30	<input type="checkbox"/>	MPS0690-L30C	272	232	36	8	A
7.0	40	<input type="checkbox"/>	MPS0690-L40C	341	301	36	8	A
	20	●	MSL0690-L20C	202	162	36	8	B
	25	●	MSL0690-L25C	237	197	36	8	B
	30	●	MSL0690-L30C	272	232	36	8	B
	3	●	MPS0700S-DIN	79	34	36	8	A
	3	●	MPS0700S-DIN-C	79	34	36	8	A
7.1	5	●	MPS0700L-DIN	91	53	36	8	A
	5	●	MPS0700L-DIN-C	91	53	36	8	A
	8	●	MPS0700-L8C	118	78	36	8	A
	10	<input type="checkbox"/>	MPS0700-L10C	132	92	36	8	A
	12	●	MPS0700-L12C	146	106	36	8	A
	15	●	MPS0700-L15C	167	127	36	8	A
	20	<input type="checkbox"/>	MPS0700-L20C	202	162	36	8	A
	25	<input type="checkbox"/>	MPS0700-L25C	237	197	36	8	A
	30	<input type="checkbox"/>	MPS0700-L30C	272	232	36	8	A
	40	<input type="checkbox"/>	MPS0700-L40C	341	301	36	8	A
	20	●	MSL0700-L20C	202	162	36	8	B
	25	●	MSL0700-L25C	237	197	36	8	B
30	●	MSL0700-L30C	272	232	36	8	B	
7.1	3	●	MPS0710S-DIN	79	41	36	8	A
	3	●	MPS0710S-DIN-C	79	41	36	8	A
	5	●	MPS0710L-DIN	91	53	36	8	A
	5	●	MPS0710L-DIN-C	91	53	36	8	A
	8	●	MPS0710-L8C	124	84	36	8	A
	10	<input type="checkbox"/>	MPS0710-L10C	139	99	36	8	A
	12	●	MPS0710-L12C	154	114	36	8	A
	15	●	MPS0710-L15C	176	136	36	8	A
	20	<input type="checkbox"/>	MPS0710-L20C	214	174	36	8	A
	25	<input type="checkbox"/>	MPS0710-L25C	251	211	36	8	A
	30	<input type="checkbox"/>	MPS0710-L30C	289	249	36	8	A
	40	<input type="checkbox"/>	MPS0710-L40C	341	301	36	8	A
20	●	MSL0710-L20C	214	174	36	8	B	
25	●	MSL0710-L25C	251	211	36	8	B	
30	●	MSL0710-L30C	289	249	36	8	B	

● : Inventory maintained. □ : Non stock, produced to order only.

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type	
		VP15TF			L1	L3	L9	D4		
7.2	3	●		MPS0720S-DIN	79	41	36	8	A	
	3	●		MPS0720S-DIN-C	79	41	36	8	A	
	5	●		MPS0720L-DIN	91	53	36	8	A	
	5	●		MPS0720L-DIN-C	91	53	36	8	A	
	8	●		MPS0720-L8C	124	84	36	8	A	
	10	□		MPS0720-L10C	139	99	36	8	A	
	12	●		MPS0720-L12C	154	114	36	8	A	
	15	●		MPS0720-L15C	176	136	36	8	A	
	20	□		MPS0720-L20C	214	174	36	8	A	
	25	□		MPS0720-L25C	251	211	36	8	A	
	30	□		MPS0720-L30C	289	249	36	8	A	
	NEW	40	□		MPS0720-L40C	360	321	36	8	A
	20	●		MSL0720-L20C	214	174	36	8	B	
25	●		MSL0720-L25C	251	211	36	8	B		
30	●		MSL0720-L30C	289	249	36	8	B		
7.3	3	●		MPS0730S-DIN	79	41	36	8	A	
	3	●		MPS0730S-DIN-C	79	41	36	8	A	
	5	●		MPS0730L-DIN	91	53	36	8	A	
	5	●		MPS0730L-DIN-C	91	53	36	8	A	
	8	●		MPS0730-L8C	124	84	36	8	A	
	10	□		MPS0730-L10C	139	99	36	8	A	
	12	●		MPS0730-L12C	154	114	36	8	A	
	15	●		MPS0730-L15C	176	136	36	8	A	
	20	□		MPS0730-L20C	214	174	36	8	A	
	25	□		MPS0730-L25C	251	211	36	8	A	
	30	□		MPS0730-L30C	289	249	36	8	A	
	NEW	40	□		MPS0730-L40C	360	321	36	8	A
	20	●		MSL0730-L20C	214	174	36	8	B	
25	●		MSL0730-L25C	251	211	36	8	B		
30	●		MSL0730-L30C	289	249	36	8	B		
7.4	3	●		MPS0740S-DIN	79	41	36	8	A	
	3	●		MPS0740S-DIN-C	79	41	36	8	A	
	5	●		MPS0740L-DIN	91	53	36	8	A	
	5	●		MPS0740L-DIN-C	91	53	36	8	A	
	8	●		MPS0740-L8C	124	84	36	8	A	
	10	□		MPS0740-L10C	139	99	36	8	A	
	12	●		MPS0740-L12C	154	114	36	8	A	
	15	●		MPS0740-L15C	176	136	36	8	A	
	20	□		MPS0740-L20C	214	174	36	8	A	
	25	□		MPS0740-L25C	251	211	36	8	A	
	30	□		MPS0740-L30C	289	249	36	8	A	
	NEW	40	□		MPS0740-L40C	360	321	36	8	A
	20	●		MSL0740-L20C	214	174	36	8	B	
25	●		MSL0740-L25C	251	211	36	8	B		
30	●		MSL0740-L30C	289	249	36	8	B		
7.5	3	●		MPS0750S-DIN	79	41	36	8	A	
	3	●		MPS0750S-DIN-C	79	41	36	8	A	
	5	●		MPS0750L-DIN	91	53	36	8	A	
	5	●		MPS0750L-DIN-C	91	53	36	8	A	
	8	●		MPS0750-L8C	124	84	36	8	A	
	10	□		MPS0750-L10C	139	99	36	8	A	
	12	●		MPS0750-L12C	154	114	36	8	A	
	15	●		MPS0750-L15C	176	136	36	8	A	
	20	□		MPS0750-L20C	214	174	36	8	A	
	25	□		MPS0750-L25C	251	211	36	8	A	

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type	
		VP15TF			L1	L3	L9	D4		
7.5	30	□		MPS0750-L30C	289	249	36	8	A	
	NEW	40	●	MPS0750-L40C	360	321	36	8	A	
	20	●		MSL0750-L20C	214	174	36	8	B	
	25	●		MSL0750-L25C	251	211	36	8	B	
	30	●		MSL0750-L30C	289	249	36	8	B	
	7.6	3	●		MPS0760S-DIN	79	41	36	8	A
3		●		MPS0760S-DIN-C	79	41	36	8	A	
5		●		MPS0760L-DIN	91	53	36	8	A	
5		●		MPS0760L-DIN-C	91	53	36	8	A	
8		●		MPS0760-L8C	129	89	36	8	A	
10		□		MPS0760-L10C	145	105	36	8	A	
12		●		MPS0760-L12C	161	121	36	8	A	
15		●		MPS0760-L15C	185	145	36	8	A	
20		□		MPS0760-L20C	225	185	36	8	A	
25		□		MPS0760-L25C	265	225	36	8	A	
30		□		MPS0760-L30C	305	265	36	8	A	
NEW		40	□		MPS0760-L40C	379	341	36	8	A
20		●		MSL0760-L20C	225	185	36	8	B	
25	●		MSL0760-L25C	265	225	36	8	B		
30	●		MSL0760-L30C	305	265	36	8	B		
7.7	3	●		MPS0770S-DIN	79	41	36	8	A	
	3	●		MPS0770S-DIN-C	79	41	36	8	A	
	5	●		MPS0770L-DIN	91	53	36	8	A	
	5	●		MPS0770L-DIN-C	91	53	36	8	A	
	8	●		MPS0770-L8C	129	89	36	8	A	
	10	□		MPS0770-L10C	145	105	36	8	A	
	12	●		MPS0770-L12C	161	121	36	8	A	
	15	●		MPS0770-L15C	185	145	36	8	A	
	20	□		MPS0770-L20C	225	185	36	8	A	
	25	□		MPS0770-L25C	265	225	36	8	A	
	30	□		MPS0770-L30C	305	265	36	8	A	
	NEW	40	□		MPS0770-L40C	379	341	36	8	A
	20	●		MSL0770-L20C	225	185	36	8	B	
25	●		MSL0770-L25C	265	225	36	8	B		
30	●		MSL0770-L30C	305	265	36	8	B		
7.8	3	●		MPS0780S-DIN	79	41	36	8	A	
	3	●		MPS0780S-DIN-C	79	41	36	8	A	
	5	●		MPS0780L-DIN	91	53	36	8	A	
	5	●		MPS0780L-DIN-C	91	53	36	8	A	
	8	●		MPS0780-L8C	129	89	36	8	A	
	10	□		MPS0780-L10C	145	105	36	8	A	
	12	●		MPS0780-L12C	161	121	36	8	A	
	15	●		MPS0780-L15C	185	145	36	8	A	
	20	□		MPS0780-L20C	225	185	36	8	A	
	25	□		MPS0780-L25C	265	225	36	8	A	
	30	□		MPS0780-L30C	305	265	36	8	A	
	NEW	40	□		MPS0780-L40C	379	341	36	8	A
	20	●		MSL0780-L20C	225	185	36	8	B	
25	●		MSL0780-L25C	265	225	36	8	B		
30	●		MSL0780-L30C	305	265	36	8	B		
7.9	3	●		MPS0790S-DIN	79	41	36	8	A	
	3	●		MPS0790S-DIN-C	79	41	36	8	A	
	5	●		MPS0790L-DIN	91	53	36	8	A	
	5	●		MPS0790L-DIN-C	91	53	36	8	A	
	8	●		MPS0790-L8C	129	89	36	8	A	

Solid Carbide Drill

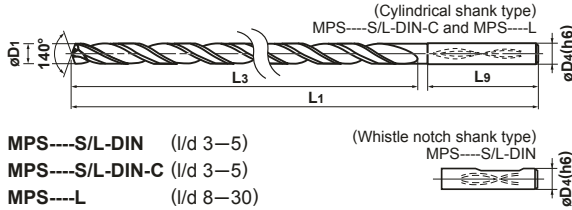
MPS/MSL



D1 Tolerance	3.0≤D1≤6.0	6.0<D1≤10.0	10.0<D1≤18.0	18.0<D1≤20.0
DIN type	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Others	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* MPS-DIN type see table above. Other MPS/MSL drills h7 tolerance.

●Type A Double margin type



●Type B Standard margin type



MSL (l/d 20-30)

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
7.9	10	<input type="checkbox"/>		MPS0790-L10C	145	105	36	8	A
	12	<input checked="" type="checkbox"/>		MPS0790-L12C	161	121	36	8	A
	15	<input checked="" type="checkbox"/>		MPS0790-L15C	185	145	36	8	A
	20	<input type="checkbox"/>		MPS0790-L20C	225	185	36	8	A
	25	<input type="checkbox"/>		MPS0790-L25C	265	225	36	8	A
	30	<input type="checkbox"/>		MPS0790-L30C	305	265	36	8	A
	40	<input type="checkbox"/>		MPS0790-L40C	379	341	36	8	A
	20	<input checked="" type="checkbox"/>		MSL0790-L20C	225	185	36	8	B
	25	<input checked="" type="checkbox"/>		MSL0790-L25C	265	225	36	8	B
30	<input checked="" type="checkbox"/>		MSL0790-L30C	305	265	36	8	B	
8.0	3	<input checked="" type="checkbox"/>		MPS0800S-DIN	79	41	36	8	A
	3	<input checked="" type="checkbox"/>		MPS0800S-DIN-C	79	41	36	8	A
	5	<input checked="" type="checkbox"/>		MPS0800L-DIN	91	53	36	8	A
	5	<input checked="" type="checkbox"/>		MPS0800L-DIN-C	91	53	36	8	A
	8	<input checked="" type="checkbox"/>		MPS0800-L8C	129	89	36	8	A
	10	<input type="checkbox"/>		MPS0800-L10C	145	105	36	8	A
	12	<input checked="" type="checkbox"/>		MPS0800-L12C	161	121	36	8	A
	15	<input checked="" type="checkbox"/>		MPS0800-L15C	185	145	36	8	A
	20	<input type="checkbox"/>		MPS0800-L20C	225	185	36	8	A
	25	<input type="checkbox"/>		MPS0800-L25C	265	225	36	8	A
	30	<input type="checkbox"/>		MPS0800-L30C	305	265	36	8	A
	40	<input checked="" type="checkbox"/>		MPS0800-L40C	379	341	36	8	A
20	<input checked="" type="checkbox"/>		MSL0800-L20C	225	185	36	8	B	
25	<input checked="" type="checkbox"/>		MSL0800-L25C	265	225	36	8	B	
30	<input checked="" type="checkbox"/>		MSL0800-L30C	305	265	36	8	B	
8.05	3	<input checked="" type="checkbox"/>		MPS0805S-DIN	88	46	40	10	A
	3	<input checked="" type="checkbox"/>		MPS0805S-DIN-C	88	46	40	10	A
	5	<input checked="" type="checkbox"/>		MPS0805L-DIN	102	60	40	10	A
	5	<input checked="" type="checkbox"/>		MPS0805L-DIN-C	102	60	40	10	A
8.1	3	<input checked="" type="checkbox"/>		MPS0810S-DIN	88	46	40	10	A
	3	<input checked="" type="checkbox"/>		MPS0810S-DIN-C	88	46	40	10	A
	5	<input checked="" type="checkbox"/>		MPS0810L-DIN	102	60	40	10	A
	5	<input checked="" type="checkbox"/>		MPS0810L-DIN-C	102	60	40	10	A
	8	<input checked="" type="checkbox"/>		MPS0810-L8C	139	95	40	10	A
	10	<input type="checkbox"/>		MPS0810-L10C	156	112	40	10	A
	12	<input checked="" type="checkbox"/>		MPS0810-L12C	173	129	40	10	A
	15	<input checked="" type="checkbox"/>		MPS0810-L15C	198	154	40	10	A
	20	<input type="checkbox"/>		MPS0810-L20C	241	197	40	10	A
	25	<input type="checkbox"/>		MPS0810-L25C	283	239	40	10	A
	30	<input type="checkbox"/>		MPS0810-L30C	326	282	40	10	A
	40	<input type="checkbox"/>		MPS0810-L40C	411	366	36	10	A
20	<input checked="" type="checkbox"/>		MSL0810-L20C	241	197	40	10	B	

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
8.1	25	<input checked="" type="checkbox"/>		MSL0810-L25C	283	239	40	10	B
	30	<input type="checkbox"/>		MSL0810-L30C	326	282	40	10	B
8.2	3	<input checked="" type="checkbox"/>		MPS0820S-DIN	88	46	40	10	A
	3	<input checked="" type="checkbox"/>		MPS0820S-DIN-C	88	46	40	10	A
	5	<input checked="" type="checkbox"/>		MPS0820L-DIN	102	60	40	10	A
	5	<input checked="" type="checkbox"/>		MPS0820L-DIN-C	102	60	40	10	A
	8	<input checked="" type="checkbox"/>		MPS0820-L8C	139	95	40	10	A
	10	<input type="checkbox"/>		MPS0820-L10C	156	112	40	10	A
	12	<input checked="" type="checkbox"/>		MPS0820-L12C	173	129	40	10	A
	15	<input checked="" type="checkbox"/>		MPS0820-L15C	198	154	40	10	A
	20	<input type="checkbox"/>		MPS0820-L20C	241	197	40	10	A
	25	<input type="checkbox"/>		MPS0820-L25C	283	239	40	10	A
	30	<input type="checkbox"/>		MPS0820-L30C	326	282	40	10	A
	40	<input type="checkbox"/>		MPS0820-L40C	411	366	40	10	A
20	<input checked="" type="checkbox"/>		MSL0820-L20C	241	197	40	10	B	
25	<input checked="" type="checkbox"/>		MSL0820-L25C	283	239	40	10	B	
30	<input type="checkbox"/>		MSL0820-L30C	326	282	40	10	B	
8.3	3	<input checked="" type="checkbox"/>		MPS0830S-DIN	88	46	40	10	A
	3	<input checked="" type="checkbox"/>		MPS0830S-DIN-C	88	46	40	10	A
	5	<input checked="" type="checkbox"/>		MPS0830L-DIN	102	60	40	10	A
	5	<input checked="" type="checkbox"/>		MPS0830L-DIN-C	102	60	40	10	A
	8	<input checked="" type="checkbox"/>		MPS0830-L8C	139	95	40	10	A
	10	<input type="checkbox"/>		MPS0830-L10C	156	112	40	10	A
	12	<input checked="" type="checkbox"/>		MPS0830-L12C	173	129	40	10	A
	15	<input checked="" type="checkbox"/>		MPS0830-L15C	198	154	40	10	A
	20	<input type="checkbox"/>		MPS0830-L20C	241	197	40	10	A
	25	<input type="checkbox"/>		MPS0830-L25C	283	239	40	10	A
	30	<input type="checkbox"/>		MPS0830-L30C	326	282	40	10	A
	40	<input type="checkbox"/>		MPS0830-L40C	412	367	40	10	A
20	<input checked="" type="checkbox"/>		MSL0830-L20C	241	197	40	10	B	
25	<input checked="" type="checkbox"/>		MSL0830-L25C	283	239	40	10	B	
30	<input type="checkbox"/>		MSL0830-L30C	326	282	40	10	B	
8.4	3	<input checked="" type="checkbox"/>		MPS0840S-DIN	88	46	40	10	A
	3	<input checked="" type="checkbox"/>		MPS0840S-DIN-C	88	46	40	10	A
	5	<input checked="" type="checkbox"/>		MPS0840L-DIN	102	60	40	10	A
	5	<input checked="" type="checkbox"/>		MPS0840L-DIN-C	102	60	40	10	A
	8	<input checked="" type="checkbox"/>		MPS0840-L8C	139	95	40	10	A
	10	<input type="checkbox"/>		MPS0840-L10C	156	112	40	10	A
	12	<input checked="" type="checkbox"/>		MPS0840-L12C	173	129	40	10	A
	15	<input checked="" type="checkbox"/>		MPS0840-L15C	198	154	40	10	A
	20	<input type="checkbox"/>		MPS0840-L20C	241	197	40	10	A
	25	<input type="checkbox"/>		MPS0840-L25C	283	239	40	10	A

● : Inventory maintained. □ : Non stock, produced to order only.

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
8.4	30	☐		MPS0840-L30C	326	282	40	10	A
	40	☐		MPS0840-L40C	412	367	40	10	A
	20	●		MSL0840-L20C	241	197	40	10	B
	25	●		MSL0840-L25C	283	239	40	10	B
	30	☐		MSL0840-L30C	326	282	40	10	B
8.5	3	●		MPS0850S-DIN	88	46	40	10	A
	3	●		MPS0850S-DIN-C	88	46	40	10	A
	5	●		MPS0850L-DIN	102	60	40	10	A
	5	●		MPS0850L-DIN-C	102	60	40	10	A
	8	●		MPS0850-L8C	139	95	40	10	A
	10	☐		MPS0850-L10C	156	112	40	10	A
	12	●		MPS0850-L12C	173	129	40	10	A
	15	●		MPS0850-L15C	198	154	40	10	A
	20	☐		MPS0850-L20C	241	197	40	10	A
	25	☐		MPS0850-L25C	283	239	40	10	A
	30	☐		MPS0850-L30C	326	282	40	10	A
	40	●		MPS0850-L40C	412	367	40	10	A
	20	●		MSL0850-L20C	241	197	40	10	B
	25	●		MSL0850-L25C	283	239	40	10	B
30	●		MSL0850-L30C	326	282	40	10	B	
8.6	3	●		MPS0860S-DIN	88	46	40	10	A
	3	●		MPS0860S-DIN-C	88	46	40	10	A
	5	●		MPS0860L-DIN	102	60	40	10	A
	5	●		MPS0860L-DIN-C	102	60	40	10	A
	8	●		MPS0860-L8C	144	100	40	10	A
	10	☐		MPS0860-L10C	162	118	40	10	A
	12	●		MPS0860-L12C	180	136	40	10	A
	15	●		MPS0860-L15C	207	163	40	10	A
	20	☐		MPS0860-L20C	252	208	40	10	A
	25	☐		MPS0860-L25C	297	253	40	10	A
	30	☐		MPS0860-L30C	342	298	40	10	A
	40	☐		MPS0860-L40C	436	392	40	10	A
	20	●		MSL0860-L20C	252	208	40	10	B
	25	●		MSL0860-L25C	297	253	40	10	B
30	☐		MSL0860-L30C	342	298	40	10	B	
8.7	3	●		MPS0870S-DIN	88	46	40	10	A
	3	●		MPS0870S-DIN-C	88	46	40	10	A
	5	●		MPS0870L-DIN	102	60	40	10	A
	5	●		MPS0870L-DIN-C	102	60	40	10	A
	8	●		MPS0870-L8C	144	100	40	10	A
	10	☐		MPS0870-L10C	162	118	40	10	A
	12	●		MPS0870-L12C	180	136	40	10	A
	15	●		MPS0870-L15C	207	163	40	10	A
	20	☐		MPS0870-L20C	252	208	40	10	A
	25	☐		MPS0870-L25C	297	253	40	10	A
	30	☐		MPS0870-L30C	342	298	40	10	A
	40	☐		MPS0870-L40C	436	392	40	10	A
	20	●		MSL0870-L20C	252	208	40	10	B
	25	●		MSL0870-L25C	297	253	40	10	B
30	☐		MSL0870-L30C	342	298	40	10	B	
8.8	3	●		MPS0880S-DIN	88	46	40	10	A
	3	●		MPS0880S-DIN-C	88	46	40	10	A
	5	●		MPS0880L-DIN	102	60	40	10	A
	5	●		MPS0880L-DIN-C	102	60	40	10	A
	8	●		MPS0880-L8C	144	100	40	10	A
	10	☐		MPS0880-L10C	162	118	40	10	A
	12	●		MPS0880-L12C	180	136	40	10	A
	15	●		MPS0880-L15C	207	163	40	10	A
	20	☐		MPS0880-L20C	252	208	40	10	A
	25	☐		MPS0880-L25C	297	253	40	10	A
	30	☐		MPS0880-L30C	342	298	40	10	A
	40	☐		MPS0880-L40C	436	392	40	10	A
	20	●		MSL0880-L20C	252	208	40	10	B
	25	●		MSL0880-L25C	297	253	40	10	B
30	☐		MSL0880-L30C	342	298	40	10	B	
40	☐		MPS0880-L40C	436	392	40	10	A	

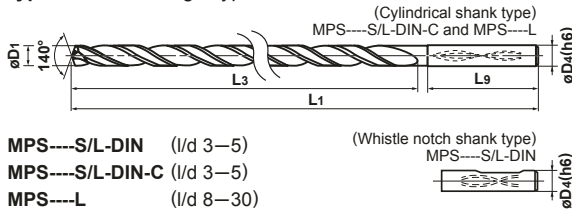
Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
8.8	20	●		MSL0880-L20C	252	208	40	10	B
	25	●		MSL0880-L25C	297	253	40	10	B
	30	●		MSL0880-L30C	342	298	40	10	B
8.9	3	●		MPS0890S-DIN	88	46	40	10	A
	3	●		MPS0890S-DIN-C	88	46	40	10	A
	5	●		MPS0890L-DIN	102	60	40	10	A
	5	●		MPS0890L-DIN-C	102	60	40	10	A
	8	●		MPS0890-L8C	144	100	40	10	A
	10	☐		MPS0890-L10C	162	118	40	10	A
	12	●		MPS0890-L12C	180	136	40	10	A
	15	●		MPS0890-L15C	207	163	40	10	A
	20	☐		MPS0890-L20C	252	208	40	10	A
	25	☐		MPS0890-L25C	297	253	40	10	A
	30	☐		MPS0890-L30C	342	298	40	10	A
	40	☐		MPS0890-L40C	436	392	40	10	A
	20	●		MSL0890-L20C	252	208	40	10	B
	25	●		MSL0890-L25C	297	253	40	10	B
30	☐		MSL0890-L30C	342	298	40	10	B	
9.0	3	●		MPS0900S-DIN	88	46	40	10	A
	3	●		MPS0900S-DIN-C	88	46	40	10	A
	5	●		MPS0900L-DIN	102	60	40	10	A
	5	●		MPS0900L-DIN-C	102	60	40	10	A
	8	●		MPS0900-L8C	144	100	40	10	A
	10	☐		MPS0900-L10C	162	118	40	10	A
	12	●		MPS0900-L12C	180	136	40	10	A
	15	●		MPS0900-L15C	207	163	40	10	A
	20	☐		MPS0900-L20C	252	208	40	10	A
	25	☐		MPS0900-L25C	297	253	40	10	A
	30	☐		MPS0900-L30C	342	298	40	10	A
	40	●		MPS0900-L40C	436	392	40	10	A
	20	●		MSL0900-L20C	252	208	40	10	B
	25	●		MSL0900-L25C	297	253	40	10	B
30	●		MSL0900-L30C	342	298	40	10	B	
9.1	3	●		MPS0910S-DIN	89	47	40	10	A
	3	●		MPS0910S-DIN-C	89	47	40	10	A
	5	●		MPS0910L-DIN	103	62	40	10	A
	5	●		MPS0910L-DIN-C	103	62	40	10	A
	8	●		MPS0910-L8C	151	107	40	10	A
	10	☐		MPS0910-L10C	170	126	40	10	A
	12	●		MPS0910-L12C	189	145	40	10	A
	15	●		MPS0910-L15C	217	173	40	10	A
	20	☐		MPS0910-L20C	265	221	40	10	A
	25	☐		MPS0910-L25C	312	268	40	10	A
	30	☐		MPS0910-L30C	360	316	40	10	A
	20	●		MSL0910-L20C	265	221	40	10	B
	25	☐		MSL0910-L25C	312	268	40	10	B
	30	☐		MSL0910-L30C	360	316	40	10	B
9.2	3	●		MPS0920S-DIN	89	47	40	10	A
	3	●		MPS0920S-DIN-C	89	47	40	10	A
	5	●		MPS0920L-DIN	103	62	40	10	A
	5	●		MPS0920L-DIN-C	103	62	40	10	A
	8	●		MPS0920-L8C	151	107	40	10	A
	10	☐		MPS0920-L10C	170	126	40	10	A
	12	●		MPS0920-L12C	189	145	40	10	A
	15	●		MPS0920-L15C	217	173	40	10	A
	20	☐		MPS0920-L20C	265	221	40	10	A
	25	☐		MPS0920-L25C	312	268	40	10	A
	30	☐		MPS0920-L30C	360	316	40	10	A
	20	●		MSL0920-L20C	265	221	40	10	B
	25	☐		MSL0920-L25C	312	268	40	10	B
	30	☐		MSL0920-L30C	360	316	40	10	B

Solid Carbide Drill

MPS/MSL



● Type A Double margin type



MPS---S/L-DIN (l/d 3-5)
MPS---S/L-DIN-C (l/d 3-5)
MPS---L (l/d 8-30)

D1 Tolerance	3.0 ≤ D1 ≤ 6.0	6.0 < D1 ≤ 10.0	10.0 < D1 ≤ 18.0	18.0 < D1 ≤ 20.0
DIN type	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Others	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* MPS-DIN type see table above. Other MPS/MSL drills h7 tolerance.

● Type B Standard margin type



MSL (l/d 20-30)

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock VP15TF	Order Number	Dimensions (mm)				Type
				L1	L3	L9	D4	
9.3	3	●	MPS0930S-DIN	89	47	40	10	A
	3	●	MPS0930S-DIN-C	89	47	40	10	A
	5	●	MPS0930L-DIN	103	62	40	10	A
	5	●	MPS0930L-DIN-C	103	62	40	10	A
	8	●	MPS0930-L8C	151	107	40	10	A
	10	□	MPS0930-L10C	170	126	40	10	A
	12	●	MPS0930-L12C	189	145	40	10	A
	15	●	MPS0930-L15C	217	173	40	10	A
	20	□	MPS0930-L20C	265	221	40	10	A
	25	□	MPS0930-L25C	312	268	40	10	A
	30	□	MPS0930-L30C	360	316	40	10	A
	20	●	MSL0930-L20C	265	221	40	10	B
25	□	MSL0930-L25C	312	268	40	10	B	
30	□	MSL0930-L30C	360	316	40	10	B	
9.4	3	●	MPS0940S-DIN	89	47	40	10	A
	3	●	MPS0940S-DIN-C	89	47	40	10	A
	5	●	MPS0940L-DIN	103	62	40	10	A
	5	●	MPS0940L-DIN-C	103	62	40	10	A
	8	●	MPS0940-L8C	151	107	40	10	A
	10	□	MPS0940-L10C	170	126	40	10	A
	12	●	MPS0940-L12C	189	145	40	10	A
	15	●	MPS0940-L15C	217	173	40	10	A
	20	□	MPS0940-L20C	265	221	40	10	A
	25	□	MPS0940-L25C	312	268	40	10	A
	30	□	MPS0940-L30C	360	316	40	10	A
	20	●	MSL0940-L20C	265	221	40	10	B
25	□	MSL0940-L25C	312	268	40	10	B	
30	□	MSL0940-L30C	360	316	40	10	B	
9.5	3	●	MPS0950S-DIN	89	47	40	10	A
	3	●	MPS0950S-DIN-C	89	47	40	10	A
	5	●	MPS0950L-DIN	103	62	40	10	A
	5	●	MPS0950L-DIN-C	103	62	40	10	A
	8	●	MPS0950-L8C	151	107	40	10	A
	10	□	MPS0950-L10C	170	126	40	10	A
	12	●	MPS0950-L12C	189	145	40	10	A
	15	●	MPS0950-L15C	217	173	40	10	A
	20	□	MPS0950-L20C	265	221	40	10	A
	25	□	MPS0950-L25C	312	268	40	10	A
	30	□	MPS0950-L30C	360	316	40	10	A
	20	●	MSL0950-L20C	265	221	40	10	B
25	●	MSL0950-L25C	312	268	40	10	B	
30	●	MSL0950-L30C	360	316	40	10	B	

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock VP15TF	Order Number	Dimensions (mm)				Type
				L1	L3	L9	D4	
9.6	3	●	MPS0960S-DIN	89	47	40	10	A
	3	●	MPS0960S-DIN-C	89	47	40	10	A
	5	●	MPS0960L-DIN	103	62	40	10	A
	5	●	MPS0960L-DIN-C	103	62	40	10	A
	8	●	MPS0960-L8C	156	112	40	10	A
	10	□	MPS0960-L10C	176	132	40	10	A
	12	●	MPS0960-L12C	196	152	40	10	A
	15	●	MPS0960-L15C	226	182	40	10	A
	20	□	MPS0960-L20C	276	232	40	10	A
	25	□	MPS0960-L25C	326	282	40	10	A
	30	□	MPS0960-L30C	376	332	40	10	A
	20	●	MSL0960-L20C	276	232	40	10	B
25	□	MSL0960-L25C	326	282	40	10	B	
30	□	MSL0960-L30C	376	332	40	10	B	
9.7	3	●	MPS0970S-DIN	89	47	40	10	A
	3	●	MPS0970S-DIN-C	89	47	40	10	A
	5	●	MPS0970L-DIN	103	62	40	10	A
	5	●	MPS0970L-DIN-C	103	62	40	10	A
	8	●	MPS0970-L8C	156	112	40	10	A
	10	□	MPS0970-L10C	176	132	40	10	A
	12	●	MPS0970-L12C	196	152	40	10	A
	15	●	MPS0970-L15C	226	182	40	10	A
	20	□	MPS0970-L20C	276	232	40	10	A
	25	□	MPS0970-L25C	326	282	40	10	A
	30	□	MPS0970-L30C	376	332	40	10	A
	20	●	MSL0970-L20C	276	232	40	10	B
25	□	MSL0970-L25C	326	282	40	10	B	
30	□	MSL0970-L30C	376	332	40	10	B	
9.8	3	●	MPS0980S-DIN	89	47	40	10	A
	3	●	MPS0980S-DIN-C	89	47	40	10	A
	5	●	MPS0980L-DIN	103	62	40	10	A
	5	●	MPS0980L-DIN-C	103	62	40	10	A
	8	●	MPS0980-L8C	156	112	40	10	A
	10	□	MPS0980-L10C	176	132	40	10	A
	12	●	MPS0980-L12C	196	152	40	10	A
	15	●	MPS0980-L15C	226	182	40	10	A
	20	□	MPS0980-L20C	276	232	40	10	A
	25	□	MPS0980-L25C	326	282	40	10	A
	30	□	MPS0980-L30C	376	332	40	10	A
	20	●	MSL0980-L20C	276	232	40	10	B
25	□	MSL0980-L25C	326	282	40	10	B	
30	□	MSL0980-L30C	376	332	40	10	B	

● : Inventory maintained. □ : Non stock, produced to order only.

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type	
		VP15TF			L1	L3	L9	D4		
9.9	3	●		MPS0990S-DIN	89	47	40	10	A	
	3	●		MPS0990S-DIN-C	89	47	40	10	A	
	5	●		MPS0990L-DIN	103	62	40	10	A	
	5	●		MPS0990L-DIN-C	103	62	40	10	A	
	8	●		MPS0990-L8C	156	112	40	10	A	
	10	□		MPS0990-L10C	176	132	40	10	A	
	12	●		MPS0990-L12C	196	152	40	10	A	
	15	●		MPS0990-L15C	226	182	40	10	A	
	20	□		MPS0990-L20C	276	232	40	10	A	
	25	□		MPS0990-L25C	326	282	40	10	A	
	30	□		MPS0990-L30C	376	332	40	10	A	
	20	●		MSL0990-L20C	276	232	40	10	B	
	25	□		MSL0990-L25C	326	282	40	10	B	
	30	□		MSL0990-L30C	376	332	40	10	B	
10.0	3	●		MPS1000S-DIN	89	47	40	10	A	
	3	●		MPS1000S-DIN-C	89	47	40	10	A	
	5	●		MPS1000L-DIN	103	62	40	10	A	
	5	●		MPS1000L-DIN-C	103	62	40	10	A	
	8	●		MPS1000-L8C	156	112	40	10	A	
	10	□		MPS1000-L10C	176	132	40	10	A	
	12	●		MPS1000-L12C	196	152	40	10	A	
	15	●		MPS1000-L15C	226	182	40	10	A	
	20	□		MPS1000-L20C	276	232	40	10	A	
	25	□		MPS1000-L25C	326	282	40	10	A	
	30	□		MPS1000-L30C	376	332	40	10	A	
	20	●		MSL1000-L20C	276	232	40	10	B	
	25	□		MSL1000-L25C	326	282	40	10	B	
	30	●		MSL1000-L30C	376	332	40	10	B	
10.05	3	●		MPS1005S-DIN	102	55	45	12	A	
	3	●		MPS1005S-DIN-C	102	55	45	12	A	
	5	●		MPS1005L-DIN	118	71	45	12	A	
	5	●		MPS1005L-DIN-C	118	71	45	12	A	
	10.1	3	●		MPS1010S-DIN	102	55	45	12	A
3		●		MPS1010S-DIN-C	102	55	45	12	A	
5		●		MPS1010L-DIN	118	71	45	12	A	
5		●		MPS1010L-DIN-C	118	71	45	12	A	
8		●		MPS1010-L8C	167	118	45	12	A	
10		□		MPS1010-L10C	188	139	45	12	A	
12		●		MPS1010-L12C	209	160	45	12	A	
15		●		MPS1010-L15C	240	191	45	12	A	
20		□		MPS1010-L20C	293	244	45	12	A	
25		□		MPS1010-L25C	345	296	45	12	A	
20		●		MSL1010-L20C	293	244	45	12	B	
25		□		MSL1010-L25C	345	296	45	12	B	
10.2		3	●		MPS1020S-DIN	102	55	45	12	A
		3	●		MPS1020S-DIN-C	102	55	45	12	A
	5	●		MPS1020L-DIN	118	71	45	12	A	
	5	●		MPS1020L-DIN-C	118	71	45	12	A	
	8	●		MPS1020-L8C	167	118	45	12	A	
	10	□		MPS1020-L10C	188	139	45	12	A	
	12	●		MPS1020-L12C	209	160	45	12	A	
	15	●		MPS1020-L15C	240	191	45	12	A	
	20	□		MPS1020-L20C	293	244	45	12	A	
	25	□		MPS1020-L25C	345	296	45	12	A	
	20	●		MSL1020-L20C	293	244	45	12	B	
	25	□		MSL1020-L25C	345	296	45	12	B	

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type	
		VP15TF			L1	L3	L9	D4		
10.3	3	●		MPS1030S-DIN	102	55	45	12	A	
	3	●		MPS1030S-DIN-C	102	55	45	12	A	
	5	●		MPS1030L-DIN	118	71	45	12	A	
	5	●		MPS1030L-DIN-C	118	71	45	12	A	
	8	●		MPS1030-L8C	167	118	45	12	A	
	10	□		MPS1030-L10C	188	139	45	12	A	
	12	●		MPS1030-L12C	209	160	45	12	A	
	15	●		MPS1030-L15C	240	191	45	12	A	
	20	□		MPS1030-L20C	293	244	45	12	A	
	25	□		MPS1030-L25C	345	296	45	12	A	
	20	●		MSL1030-L20C	293	244	45	12	B	
	25	□		MSL1030-L25C	345	296	45	12	B	
	10.4	3	●		MPS1040S-DIN	102	55	45	12	A
		3	●		MPS1040S-DIN-C	102	55	45	12	A
5		●		MPS1040L-DIN	118	71	45	12	A	
5		●		MPS1040L-DIN-C	118	71	45	12	A	
8		●		MPS1040-L8C	167	118	45	12	A	
10		□		MPS1040-L10C	188	139	45	12	A	
12		●		MPS1040-L12C	209	160	45	12	A	
15		●		MPS1040-L15C	240	191	45	12	A	
20		□		MPS1040-L20C	293	244	45	12	A	
25		□		MPS1040-L25C	345	296	45	12	A	
20		●		MSL1040-L20C	293	244	45	12	B	
25		□		MSL1040-L25C	345	296	45	12	B	
10.5		3	●		MPS1050S-DIN	102	55	45	12	A
		3	●		MPS1050S-DIN-C	102	55	45	12	A
	5	●		MPS1050L-DIN	118	71	45	12	A	
	5	●		MPS1050L-DIN-C	118	71	45	12	A	
	8	●		MPS1050-L8C	167	118	45	12	A	
	10	□		MPS1050-L10C	188	139	45	12	A	
	12	●		MPS1050-L12C	209	160	45	12	A	
	15	●		MPS1050-L15C	240	191	45	12	A	
	20	□		MPS1050-L20C	293	244	45	12	A	
	25	□		MPS1050-L25C	345	296	45	12	A	
	20	●		MSL1050-L20C	293	244	45	12	B	
	25	●		MSL1050-L25C	345	296	45	12	B	
	10.6	3	●		MPS1060S-DIN	102	55	45	12	A
		3	●		MPS1060S-DIN-C	102	55	45	12	A
5		●		MPS1060L-DIN	118	71	45	12	A	
5		●		MPS1060L-DIN-C	118	71	45	12	A	
8		●		MPS1060-L8C	172	123	45	12	A	
10		□		MPS1060-L10C	194	145	45	12	A	
12		●		MPS1060-L12C	216	167	45	12	A	
15		●		MPS1060-L15C	249	200	45	12	A	
20		□		MPS1060-L20C	304	255	45	12	A	
25		□		MPS1060-L25C	359	310	45	12	A	
20		●		MSL1060-L20C	304	255	45	12	B	
25		□		MSL1060-L25C	359	310	45	12	B	

Solid Carbide Drill

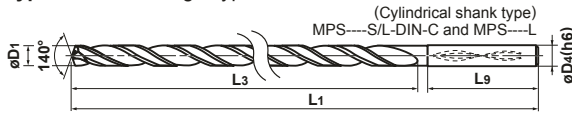
MPS/MSL



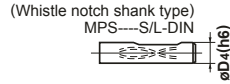
D1 Tolerance	3.0≤D1≤6.0	6.0<D1≤10.0	10.0<D1≤18.0	18.0<D1≤20.0
DIN type	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Others	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* MPS-DIN type see table above. Other MPS/MSL drills h7 tolerance.

● Type A Double margin type



MPS---S/L-DIN (l/d 3-5)
 MPS---S/L-DIN-C (l/d 3-5)
 MPS---L (l/d 8-30)



Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
10.7	3	●		MPS1070S-DIN	102	55	45	12	A
	3	●		MPS1070S-DIN-C	102	55	45	12	A
	5	●		MPS1070L-DIN	118	71	45	12	A
	5	●		MPS1070L-DIN-C	118	71	45	12	A
	8	●		MPS1070-L8C	172	123	45	12	A
	10	□		MPS1070-L10C	194	145	45	12	A
	12	●		MPS1070-L12C	216	167	45	12	A
	15	●		MPS1070-L15C	249	200	45	12	A
	20	□		MPS1070-L20C	304	255	45	12	A
	25	□		MPS1070-L25C	359	310	45	12	A
	20	●		MSL1070-L20C	304	255	45	12	B
	25	□		MSL1070-L25C	359	310	45	12	B
10.8	3	●		MPS1080S-DIN	102	55	45	12	A
	3	●		MPS1080S-DIN-C	102	55	45	12	A
	5	●		MPS1080L-DIN	118	71	45	12	A
	5	●		MPS1080L-DIN-C	118	71	45	12	A
	8	●		MPS1080-L8C	172	123	45	12	A
	10	□		MPS1080-L10C	194	145	45	12	A
	12	●		MPS1080-L12C	216	167	45	12	A
	15	●		MPS1080-L15C	249	200	45	12	A
	20	□		MPS1080-L20C	304	255	45	12	A
	25	□		MPS1080-L25C	359	310	45	12	A
	20	●		MSL1080-L20C	304	255	45	12	B
	25	□		MSL1080-L25C	359	310	45	12	B
10.9	3	●		MPS1090S-DIN	102	55	45	12	A
	3	●		MPS1090S-DIN-C	102	55	45	12	A
	5	●		MPS1090L-DIN	118	71	45	12	A
	5	●		MPS1090L-DIN-C	118	71	45	12	A
	8	●		MPS1090-L8C	172	123	45	12	A
	10	□		MPS1090-L10C	194	145	45	12	A
	12	●		MPS1090-L12C	216	167	45	12	A
	15	●		MPS1090-L15C	249	200	45	12	A
	20	□		MPS1090-L20C	304	255	45	12	A
	25	□		MPS1090-L25C	359	310	45	12	A
	20	●		MSL1090-L20C	304	255	45	12	B
	25	□		MSL1090-L25C	359	310	45	12	B
11.0	3	●		MPS1100S-DIN	102	55	45	12	A
	3	●		MPS1100S-DIN-C	102	55	45	12	A
	5	●		MPS1100L-DIN	118	71	45	12	A
	5	●		MPS1100L-DIN-C	118	71	45	12	A
	8	●		MPS1100-L8C	172	123	45	12	A
	10	□		MPS1100-L10C	194	145	45	12	A

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
11.0	12	●		MPS1100-L12C	216	167	45	12	A
	15	●		MPS1100-L15C	249	200	45	12	A
	20	□		MPS1100-L20C	304	255	45	12	A
	25	□		MPS1100-L25C	359	310	45	12	A
	20	●		MSL1100-L20C	304	255	45	12	B
	25	●		MSL1100-L25C	359	310	45	12	B
11.1	3	●		MPS1110S-DIN	102	55	45	12	A
	3	●		MPS1110S-DIN-C	102	55	45	12	A
	5	●		MPS1110L-DIN	118	71	45	12	A
	5	●		MPS1110L-DIN-C	118	71	45	12	A
	8	●		MPS1110-L8C	178	129	45	12	A
	10	□		MPS1110-L10C	201	152	45	12	A
	12	●		MPS1110-L12C	224	175	45	12	A
	15	●		MPS1110-L15C	258	209	45	12	A
	20	□		MPS1110-L20C	316	267	45	12	A
	25	□		MPS1110-L25C	373	324	45	12	A
	20	□		MSL1110-L20C	316	267	45	12	B
	25	□		MSL1110-L25C	373	324	45	12	B
11.2	3	●		MPS1120S-DIN	102	55	45	12	A
	3	●		MPS1120S-DIN-C	102	55	45	12	A
	5	●		MPS1120L-DIN	118	71	45	12	A
	5	●		MPS1120L-DIN-C	118	71	45	12	A
	8	●		MPS1120-L8C	178	129	45	12	A
	10	□		MPS1120-L10C	201	152	45	12	A
	12	●		MPS1120-L12C	224	175	45	12	A
	15	●		MPS1120-L15C	258	209	45	12	A
	20	□		MPS1120-L20C	316	267	45	12	A
	25	□		MPS1120-L25C	373	324	45	12	A
	20	□		MSL1120-L20C	316	267	45	12	B
	25	□		MSL1120-L25C	373	324	45	12	B
11.3	3	●		MPS1130S-DIN	102	55	45	12	A
	3	●		MPS1130S-DIN-C	102	55	45	12	A
	5	●		MPS1130L-DIN	118	71	45	12	A
	5	●		MPS1130L-DIN-C	118	71	45	12	A
	8	●		MPS1130-L8C	178	129	45	12	A
	10	□		MPS1130-L10C	201	152	45	12	A
	12	●		MPS1130-L12C	224	175	45	12	A
	15	●		MPS1130-L15C	258	209	45	12	A
	20	□		MPS1130-L20C	316	267	45	12	A
	25	□		MPS1130-L25C	373	324	45	12	A
	20	□		MSL1130-L20C	316	267	45	12	B
	25	□		MSL1130-L25C	373	324	45	12	B

● : Inventory maintained. □ : Non stock, produced to order only.

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
11.4	3	●		MPS1140S-DIN	102	55	45	12	A
	3	●		MPS1140S-DIN-C	102	55	45	12	A
	5	●		MPS1140L-DIN	118	71	45	12	A
	5	●		MPS1140L-DIN-C	118	71	45	12	A
	8	●		MPS1140-L8C	178	129	45	12	A
	10	□		MPS1140-L10C	201	152	45	12	A
	12	●		MPS1140-L12C	224	175	45	12	A
	15	●		MPS1140-L15C	258	209	45	12	A
	20	□		MPS1140-L20C	316	267	45	12	A
	25	□		MPS1140-L25C	373	324	45	12	A
11.5	20	□		MSL1140-L20C	316	267	45	12	B
	25	□		MSL1140-L25C	373	324	45	12	B
	3	●		MPS1150S-DIN	102	55	45	12	A
	3	●		MPS1150S-DIN-C	102	55	45	12	A
	5	●		MPS1150L-DIN	118	71	45	12	A
	5	●		MPS1150L-DIN-C	118	71	45	12	A
	8	●		MPS1150-L8C	178	129	45	12	A
	10	□		MPS1150-L10C	201	152	45	12	A
	12	●		MPS1150-L12C	224	175	45	12	A
	15	●		MPS1150-L15C	258	209	45	12	A
20	□		MPS1150-L20C	316	267	45	12	A	
25	□		MPS1150-L25C	373	324	45	12	A	
20	●		MSL1150-L20C	316	267	45	12	B	
25	●		MSL1150-L25C	373	324	45	12	B	
11.6	3	●		MPS1160S-DIN	102	55	45	12	A
	3	●		MPS1160S-DIN-C	102	55	45	12	A
	5	●		MPS1160L-DIN	118	71	45	12	A
	5	●		MPS1160L-DIN-C	118	71	45	12	A
	8	●		MPS1160-L8C	183	134	45	12	A
	10	□		MPS1160-L10C	207	158	45	12	A
	12	●		MPS1160-L12C	231	182	45	12	A
	15	●		MPS1160-L15C	267	218	45	12	A
	20	□		MPS1160-L20C	327	278	45	12	A
	25	□		MPS1160-L25C	387	338	45	12	A
20	□		MSL1160-L20C	327	278	45	12	B	
25	□		MSL1160-L25C	387	338	45	12	B	
11.7	3	●		MPS1170S-DIN	102	55	45	12	A
	3	●		MPS1170S-DIN-C	102	55	45	12	A
	5	●		MPS1170L-DIN	118	71	45	12	A
	5	●		MPS1170L-DIN-C	118	71	45	12	A
	8	●		MPS1170-L8C	183	134	45	12	A
	10	□		MPS1170-L10C	207	158	45	12	A
	12	●		MPS1170-L12C	231	182	45	12	A
	15	●		MPS1170-L15C	267	218	45	12	A
	20	□		MPS1170-L20C	327	278	45	12	A
	25	□		MPS1170-L25C	387	338	45	12	A
20	□		MSL1170-L20C	327	278	45	12	B	
25	□		MSL1170-L25C	387	338	45	12	B	
11.8	3	●		MPS1180S-DIN	102	55	45	12	A
	3	●		MPS1180S-DIN-C	102	55	45	12	A
	5	●		MPS1180L-DIN	118	71	45	12	A
	5	●		MPS1180L-DIN-C	118	71	45	12	A
	8	●		MPS1180-L8C	183	134	45	12	A
	10	□		MPS1180-L10C	207	158	45	12	A
	12	●		MPS1180-L12C	231	182	45	12	A
15	●		MPS1180-L15C	267	218	45	12	A	

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
11.8	20	□		MPS1180-L20C	327	278	45	12	A
	25	□		MPS1180-L25C	387	338	45	12	A
	20	□		MSL1180-L20C	327	278	45	12	B
	25	□		MSL1180-L25C	387	338	45	12	B
11.9	3	●		MPS1190S-DIN	102	55	45	12	A
	3	●		MPS1190S-DIN-C	102	55	45	12	A
	5	●		MPS1190L-DIN	118	71	45	12	A
	5	●		MPS1190L-DIN-C	118	71	45	12	A
	8	●		MPS1190-L8C	183	134	45	12	A
	10	□		MPS1190-L10C	207	158	45	12	A
	12	●		MPS1190-L12C	231	182	45	12	A
	15	●		MPS1190-L15C	267	218	45	12	A
	20	□		MPS1190-L20C	327	278	45	12	A
	25	□		MPS1190-L25C	387	338	45	12	A
20	□		MSL1190-L20C	327	278	45	12	B	
25	□		MSL1190-L25C	387	338	45	12	B	
12.0	3	●		MPS1200S-DIN	102	55	45	12	A
	3	●		MPS1200S-DIN-C	102	55	45	12	A
	5	●		MPS1200L-DIN	118	71	45	12	A
	5	●		MPS1200L-DIN-C	118	71	45	12	A
	8	●		MPS1200-L8C	183	134	45	12	A
	10	□		MPS1200-L10C	207	158	45	12	A
	12	●		MPS1200-L12C	231	182	45	12	A
	15	●		MPS1200-L15C	267	218	45	12	A
	20	□		MPS1200-L20C	327	278	45	12	A
	25	□		MPS1200-L25C	387	338	45	12	A
20	●		MSL1200-L20C	327	278	45	12	B	
25	●		MSL1200-L25C	387	338	45	12	B	
12.05	3	●		MPS1205S-DIN	107	60	45	14	A
	3	●		MPS1205S-DIN-C	107	60	45	14	A
	5	●		MPS1205L-DIN	124	77	45	14	A
	5	●		MPS1205L-DIN-C	124	77	45	14	A
	5	●		MPS1205L-DIN-C	124	77	45	14	A
12.1	3	●		MPS1210S-DIN	107	60	45	14	A
	3	●		MPS1210S-DIN-C	107	60	45	14	A
	5	●		MPS1210L-DIN	124	77	45	14	A
	5	●		MPS1210L-DIN-C	124	77	45	14	A
	8	●		MPS1210-L8C	189	140	45	14	A
	10	□		MPS1210-L10C	214	165	45	14	A
	12	●		MPS1210-L12C	239	190	45	14	A
	15	●		MPS1210-L15C	276	227	45	14	A
20	□		MPS1210-L20C	339	290	45	14	A	
20	□		MSL1210-L20C	339	290	45	14	B	
12.2	3	●		MPS1220S-DIN	107	60	45	14	A
	3	●		MPS1220S-DIN-C	107	60	45	14	A
	5	●		MPS1220L-DIN	124	77	45	14	A
	5	●		MPS1220L-DIN-C	124	77	45	14	A
	8	●		MPS1220-L8C	189	140	45	14	A
	10	□		MPS1220-L10C	214	165	45	14	A
	12	●		MPS1220-L12C	239	190	45	14	A
	15	●		MPS1220-L15C	276	227	45	14	A
20	□		MPS1220-L20C	339	290	45	14	A	
20	□		MSL1220-L20C	339	290	45	14	B	

Solid Carbide Drill

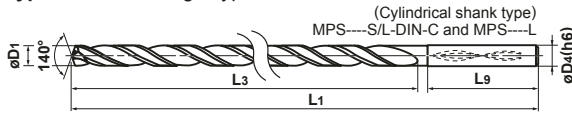
MPS/MSL



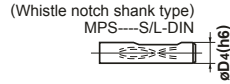
D1 Tolerance	3.0≤D1≤6.0	6.0<D1≤10.0	10.0<D1≤18.0	18.0<D1≤20.0
DIN type	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Others	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* MPS-DIN type see table above. Other MPS/MSL drills h7 tolerance.

● Type A Double margin type



MPS---S/L-DIN (l/d 3-5)
 MPS---S/L-DIN-C (l/d 3-5)
 MPS---L (l/d 8-30)



Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
12.3	3	●		MPS1230S-DIN	107	60	45	14	A
	3	●		MPS1230S-DIN-C	107	60	45	14	A
	5	●		MPS1230L-DIN	124	77	45	14	A
	5	●		MPS1230L-DIN-C	124	77	45	14	A
	8	●		MPS1230-L8C	189	140	45	14	A
	10	□		MPS1230-L10C	214	165	45	14	A
	12	●		MPS1230-L12C	239	190	45	14	A
	15	●		MPS1230-L15C	276	227	45	14	A
	20	□		MPS1230-L20C	339	290	45	14	A
20	□		MSL1230-L20C	339	290	45	14	B	
12.4	3	●		MPS1240S-DIN	107	60	45	14	A
	3	●		MPS1240S-DIN-C	107	60	45	14	A
	5	●		MPS1240L-DIN	124	77	45	14	A
	5	●		MPS1240L-DIN-C	124	77	45	14	A
	8	●		MPS1240-L8C	189	140	45	14	A
	10	□		MPS1240-L10C	214	165	45	14	A
	12	●		MPS1240-L12C	239	190	45	14	A
	15	●		MPS1240-L15C	276	227	45	14	A
	20	□		MPS1240-L20C	339	290	45	14	A
20	□		MSL1240-L20C	339	290	45	14	B	
12.5	3	●		MPS1250S-DIN	107	60	45	14	A
	3	●		MPS1250S-DIN-C	107	60	45	14	A
	5	●		MPS1250L-DIN	124	77	45	14	A
	5	●		MPS1250L-DIN-C	124	77	45	14	A
	8	●		MPS1250-L8C	189	140	45	14	A
	10	□		MPS1250-L10C	214	165	45	14	A
	12	●		MPS1250-L12C	239	190	45	14	A
	15	●		MPS1250-L15C	276	227	45	14	A
	20	●		MPS1250-L20C	339	290	45	14	A
20	●		MSL1250-L20C	339	290	45	14	B	
12.6	3	●		MPS1260S-DIN	107	60	45	14	A
	3	●		MPS1260S-DIN-C	107	60	45	14	A
	5	●		MPS1260L-DIN	124	77	45	14	A
	5	●		MPS1260L-DIN-C	124	77	45	14	A
	8	●		MPS1260-L8C	194	145	45	14	A
	10	□		MPS1260-L10C	220	171	45	14	A
	12	●		MPS1260-L12C	246	197	45	14	A
	15	●		MPS1260-L15C	285	236	45	14	A
	20	□		MPS1260-L20C	350	301	45	14	A
20	□		MSL1260-L20C	350	301	45	14	B	

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
12.7	3	●		MPS1270S-DIN	107	60	45	14	A
	3	●		MPS1270S-DIN-C	107	60	45	14	A
	5	●		MPS1270L-DIN	124	77	45	14	A
	5	●		MPS1270L-DIN-C	124	77	45	14	A
	8	●		MPS1270-L8C	194	145	45	14	A
	10	□		MPS1270-L10C	220	171	45	14	A
	12	●		MPS1270-L12C	246	197	45	14	A
	15	●		MPS1270-L15C	285	236	45	14	A
	20	□		MPS1270-L20C	350	301	45	14	A
20	□		MSL1270-L20C	350	301	45	14	B	
12.8	3	●		MPS1280S-DIN	107	60	45	14	A
	3	●		MPS1280S-DIN-C	107	60	45	14	A
	5	●		MPS1280L-DIN	124	77	45	14	A
	5	●		MPS1280L-DIN-C	124	77	45	14	A
	8	●		MPS1280-L8C	194	145	45	14	A
	10	□		MPS1280-L10C	220	171	45	14	A
	12	●		MPS1280-L12C	246	197	45	14	A
	15	●		MPS1280-L15C	285	236	45	14	A
	20	□		MPS1280-L20C	350	301	45	14	A
20	□		MSL1280-L20C	350	301	45	14	B	
12.9	3	●		MPS1290S-DIN	107	60	45	14	A
	3	●		MPS1290S-DIN-C	107	60	45	14	A
	5	●		MPS1290L-DIN	124	77	45	14	A
	5	●		MPS1290L-DIN-C	124	77	45	14	A
	8	●		MPS1290-L8C	194	145	45	14	A
	10	□		MPS1290-L10C	220	171	45	14	A
	12	●		MPS1290-L12C	246	197	45	14	A
	15	●		MPS1290-L15C	285	236	45	14	A
	20	□		MPS1290-L20C	350	301	45	14	A
20	□		MSL1290-L20C	350	301	45	14	B	
13.0	3	●		MPS1300S-DIN	107	60	45	14	A
	3	●		MPS1300S-DIN-C	107	60	45	14	A
	5	●		MPS1300L-DIN	124	77	45	14	A
	5	●		MPS1300L-DIN-C	124	77	45	14	A
	8	●		MPS1300-L8C	194	145	45	14	A
	10	□		MPS1300-L10C	220	171	45	14	A
	12	●		MPS1300-L12C	246	197	45	14	A
	15	●		MPS1300-L15C	285	236	45	14	A
	20	□		MPS1300-L20C	350	301	45	14	A
20	●		MSL1300-L20C	350	301	45	14	B	

● : Inventory maintained. □ : Non stock, produced to order only.

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
13.1	3	●		MPS1310S-DIN	107	60	45	14	A
	3	●		MPS1310S-DIN-C	107	60	45	14	A
	5	●		MPS1310L-DIN	124	77	45	14	A
	5	●		MPS1310L-DIN-C	124	77	45	14	A
	8	●		MPS1310-L8C	200	151	45	14	A
	10	□		MPS1310-L10C	227	178	45	14	A
	12	●		MPS1310-L12C	254	205	45	14	A
	15	●		MPS1310-L15C	294	245	45	14	A
	20	□		MPS1310-L20C	362	313	45	14	A
	20	□		MSL1310-L20C	362	313	45	14	B
13.2	3	●		MPS1320S-DIN	107	60	45	14	A
	3	●		MPS1320S-DIN-C	107	60	45	14	A
	5	●		MPS1320L-DIN	124	77	45	14	A
	5	●		MPS1320L-DIN-C	124	77	45	14	A
	8	●		MPS1320-L8C	200	151	45	14	A
	10	□		MPS1320-L10C	227	178	45	14	A
	12	●		MPS1320-L12C	254	205	45	14	A
	15	●		MPS1320-L15C	294	245	45	14	A
	20	□		MPS1320-L20C	362	313	45	14	A
	20	□		MSL1320-L20C	362	313	45	14	B
13.3	3	●		MPS1330S-DIN	107	60	45	14	A
	3	●		MPS1330S-DIN-C	107	60	45	14	A
	5	●		MPS1330L-DIN	124	77	45	14	A
	5	●		MPS1330L-DIN-C	124	77	45	14	A
	8	●		MPS1330-L8C	200	151	45	14	A
	10	□		MPS1330-L10C	227	178	45	14	A
	12	●		MPS1330-L12C	254	205	45	14	A
	15	●		MPS1330-L15C	294	245	45	14	A
	20	□		MPS1330-L20C	362	313	45	14	A
	20	□		MSL1330-L20C	362	313	45	14	B
13.4	3	●		MPS1340S-DIN	107	60	45	14	A
	3	●		MPS1340S-DIN-C	107	60	45	14	A
	5	●		MPS1340L-DIN	124	77	45	14	A
	5	●		MPS1340L-DIN-C	124	77	45	14	A
	8	●		MPS1340-L8C	200	151	45	14	A
	10	□		MPS1340-L10C	227	178	45	14	A
	12	●		MPS1340-L12C	254	205	45	14	A
	15	●		MPS1340-L15C	294	245	45	14	A
	20	□		MPS1340-L20C	362	313	45	14	A
	20	□		MSL1340-L20C	362	313	45	14	B
13.5	3	●		MPS1350S-DIN	107	60	45	14	A
	3	●		MPS1350S-DIN-C	107	60	45	14	A
	5	●		MPS1350L-DIN	124	77	45	14	A
	5	●		MPS1350L-DIN-C	124	77	45	14	A
	8	●		MPS1350-L8C	200	151	45	14	A
	10	□		MPS1350-L10C	227	178	45	14	A
	12	●		MPS1350-L12C	254	205	45	14	A
	15	●		MPS1350-L15C	294	245	45	14	A
	20	●		MPS1350-L20C	362	313	45	14	A
	20	●		MSL1350-L20C	362	313	45	14	B
13.6	3	●		MPS1360S-DIN	107	60	45	14	A
	3	●		MPS1360S-DIN-C	107	60	45	14	A
	5	●		MPS1360L-DIN	124	77	45	14	A
	5	●		MPS1360L-DIN-C	124	77	45	14	A
	10	□		MPS1360-L10C	233	184	45	14	A

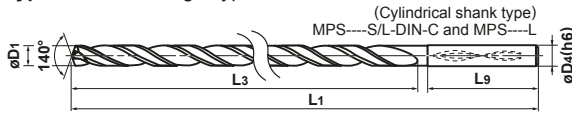
Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
13.6	12	●		MPS1360-L12C	261	212	45	14	A
	15	●		MPS1360-L15C	303	254	45	14	A
	20	□		MPS1360-L20C	373	324	45	14	A
	20	□		MSL1360-L20C	373	324	45	14	B
	13.7	3	●		MPS1370S-DIN	107	60	45	14
3		●		MPS1370S-DIN-C	107	60	45	14	A
5		●		MPS1370L-DIN	124	77	45	14	A
5		●		MPS1370L-DIN-C	124	77	45	14	A
8		●		MPS1370-L8C	205	156	45	14	A
10		□		MPS1370-L10C	233	184	45	14	A
12		●		MPS1370-L12C	261	212	45	14	A
15		●		MPS1370-L15C	303	254	45	14	A
20		□		MPS1370-L20C	373	324	45	14	A
20		□		MSL1370-L20C	373	324	45	14	B
13.8	3	●		MPS1380S-DIN	107	60	45	14	A
	3	●		MPS1380S-DIN-C	107	60	45	14	A
	5	●		MPS1380L-DIN	124	77	45	14	A
	5	●		MPS1380L-DIN-C	124	77	45	14	A
	8	●		MPS1380-L8C	205	156	45	14	A
	10	□		MPS1380-L10C	233	184	45	14	A
	12	●		MPS1380-L12C	261	212	45	14	A
	15	●		MPS1380-L15C	303	254	45	14	A
	20	□		MPS1380-L20C	373	324	45	14	A
	20	□		MSL1380-L20C	373	324	45	14	B
13.9	3	●		MPS1390S-DIN	107	60	45	14	A
	3	●		MPS1390S-DIN-C	107	60	45	14	A
	5	●		MPS1390L-DIN	124	77	45	14	A
	5	●		MPS1390L-DIN-C	124	77	45	14	A
	8	●		MPS1390-L8C	205	156	45	14	A
	10	□		MPS1390-L10C	233	184	45	14	A
	12	●		MPS1390-L12C	261	212	45	14	A
	15	●		MPS1390-L15C	303	254	45	14	A
	20	□		MPS1390-L20C	373	324	45	14	A
	20	□		MSL1390-L20C	373	324	45	14	B
14.0	3	●		MPS1400S-DIN	107	60	45	14	A
	3	●		MPS1400S-DIN-C	107	60	45	14	A
	5	●		MPS1400L-DIN	124	77	45	14	A
	5	●		MPS1400L-DIN-C	124	77	45	14	A
	8	●		MPS1400-L8C	205	156	45	14	A
	10	□		MPS1400-L10C	233	184	45	14	A
	12	●		MPS1400-L12C	261	212	45	14	A
	15	●		MPS1400-L15C	303	254	45	14	A
	20	●		MPS1400-L20C	373	324	45	14	A
	20	●		MSL1400-L20C	373	324	45	14	B
14.1	3	□		MPS1410S-DIN	114	64	48	16	A
	3	□		MPS1410S-DIN-C	114	64	48	16	A
	5	□		MPS1410L-DIN	132	82	48	16	A
	5	□		MPS1410L-DIN-C	132	82	48	16	A
	14.2	3	●		MPS1420S-DIN	114	64	48	16
3		●		MPS1420S-DIN-C	114	64	48	16	A
5		●		MPS1420L-DIN	132	82	48	16	A
5		●		MPS1420L-DIN-C	132	82	48	16	A
14.3		3	□		MPS1430S-DIN	114	64	48	16
	3	□		MPS1430S-DIN-C	114	64	48	16	A
	5	□		MPS1430L-DIN	132	82	48	16	A
	5	□		MPS1430L-DIN-C	132	82	48	16	A

Solid Carbide Drill

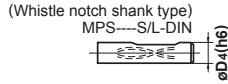
MPS/MSL



● Type A Double margin type



MPS---S/L-DIN (l/d 3-5)
 MPS---S/L-DIN-C (l/d 3-5)
 MPS---L (l/d 8-30)



D1 Tolerance	3.0 ≤ D1 ≤ 6.0	6.0 < D1 ≤ 10.0	10.0 < D1 ≤ 18.0	18.0 < D1 ≤ 20.0
DIN type	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Others	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* MPS-DIN type see table above. Other MPS/MSL drills h7 tolerance.

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
14.4	3	<input type="checkbox"/>		MPS1440S-DIN	114	64	48	16	A
	3	<input type="checkbox"/>		MPS1440S-DIN-C	114	64	48	16	A
	5	<input type="checkbox"/>		MPS1440L-DIN	132	82	48	16	A
	5	<input type="checkbox"/>		MPS1440L-DIN-C	132	82	48	16	A
14.5	3	<input checked="" type="checkbox"/>		MPS1450S-DIN	114	64	48	16	A
	3	<input checked="" type="checkbox"/>		MPS1450S-DIN-C	114	64	48	16	A
	5	<input checked="" type="checkbox"/>		MPS1450L-DIN	132	82	48	16	A
	5	<input checked="" type="checkbox"/>		MPS1450L-DIN-C	132	82	48	16	A
14.6	3	<input type="checkbox"/>		MPS1460S-DIN	114	64	48	16	A
	3	<input type="checkbox"/>		MPS1460S-DIN-C	114	64	48	16	A
	5	<input type="checkbox"/>		MPS1460L-DIN	132	82	48	16	A
	5	<input type="checkbox"/>		MPS1460L-DIN-C	132	82	48	16	A
14.7	3	<input type="checkbox"/>		MPS1470S-DIN	114	64	48	16	A
	3	<input type="checkbox"/>		MPS1470S-DIN-C	114	64	48	16	A
	5	<input type="checkbox"/>		MPS1470L-DIN	132	82	48	16	A
	5	<input type="checkbox"/>		MPS1470L-DIN-C	132	82	48	16	A
14.8	3	<input type="checkbox"/>		MPS1480S-DIN	114	64	48	16	A
	3	<input type="checkbox"/>		MPS1480S-DIN-C	114	64	48	16	A
	5	<input type="checkbox"/>		MPS1480L-DIN	132	82	48	16	A
	5	<input type="checkbox"/>		MPS1480L-DIN-C	132	82	48	16	A
14.9	3	<input type="checkbox"/>		MPS1490S-DIN	114	64	48	16	A
	3	<input type="checkbox"/>		MPS1490S-DIN-C	114	64	48	16	A
	5	<input type="checkbox"/>		MPS1490L-DIN	132	82	48	16	A
	5	<input type="checkbox"/>		MPS1490L-DIN-C	132	82	48	16	A
15.0	3	<input checked="" type="checkbox"/>		MPS1500S-DIN	114	64	48	16	A
	3	<input checked="" type="checkbox"/>		MPS1500S-DIN-C	114	64	48	16	A
	5	<input checked="" type="checkbox"/>		MPS1500L-DIN	132	82	48	16	A
	5	<input checked="" type="checkbox"/>		MPS1500L-DIN-C	132	82	48	16	A
15.1	3	<input type="checkbox"/>		MPS1510S-DIN	115	65	48	16	A
	3	<input type="checkbox"/>		MPS1510S-DIN-C	115	65	48	16	A
	5	<input type="checkbox"/>		MPS1510L-DIN	133	83	48	16	A
	5	<input type="checkbox"/>		MPS1510L-DIN-C	133	83	48	16	A
15.2	3	<input type="checkbox"/>		MPS1520S-DIN	115	65	48	16	A
	3	<input type="checkbox"/>		MPS1520S-DIN-C	115	65	48	16	A
	5	<input type="checkbox"/>		MPS1520L-DIN	133	83	48	16	A
	5	<input type="checkbox"/>		MPS1520L-DIN-C	133	83	48	16	A
15.3	3	<input type="checkbox"/>		MPS1530S-DIN	115	65	48	16	A
	3	<input type="checkbox"/>		MPS1530S-DIN-C	115	65	48	16	A
	5	<input type="checkbox"/>		MPS1530L-DIN	133	83	48	16	A
	5	<input type="checkbox"/>		MPS1530L-DIN-C	133	83	48	16	A

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
15.4	3	<input type="checkbox"/>		MPS1540S-DIN	115	65	48	16	A
	3	<input type="checkbox"/>		MPS1540S-DIN-C	115	65	48	16	A
	5	<input type="checkbox"/>		MPS1540L-DIN	133	83	48	16	A
	5	<input type="checkbox"/>		MPS1540L-DIN-C	133	83	48	16	A
15.5	3	<input checked="" type="checkbox"/>		MPS1550S-DIN	115	65	48	16	A
	3	<input checked="" type="checkbox"/>		MPS1550S-DIN-C	115	65	48	16	A
	5	<input checked="" type="checkbox"/>		MPS1550L-DIN	133	83	48	16	A
	5	<input checked="" type="checkbox"/>		MPS1550L-DIN-C	133	83	48	16	A
15.6	3	<input type="checkbox"/>		MPS1560S-DIN	115	65	48	16	A
	3	<input type="checkbox"/>		MPS1560S-DIN-C	115	65	48	16	A
	5	<input type="checkbox"/>		MPS1560L-DIN	133	83	48	16	A
	5	<input type="checkbox"/>		MPS1560L-DIN-C	133	83	48	16	A
15.7	3	<input type="checkbox"/>		MPS1570S-DIN	115	65	48	16	A
	3	<input type="checkbox"/>		MPS1570S-DIN-C	115	65	48	16	A
	5	<input type="checkbox"/>		MPS1570L-DIN	133	83	48	16	A
	5	<input type="checkbox"/>		MPS1570L-DIN-C	133	83	48	16	A
15.8	3	<input type="checkbox"/>		MPS1580S-DIN	115	65	48	16	A
	3	<input type="checkbox"/>		MPS1580S-DIN-C	115	65	48	16	A
	5	<input type="checkbox"/>		MPS1580L-DIN	133	83	48	16	A
	5	<input type="checkbox"/>		MPS1580L-DIN-C	133	83	48	16	A
15.9	3	<input type="checkbox"/>		MPS1590S-DIN	115	65	48	16	A
	3	<input type="checkbox"/>		MPS1590S-DIN-C	115	65	48	16	A
	5	<input type="checkbox"/>		MPS1590L-DIN	133	83	48	16	A
	5	<input type="checkbox"/>		MPS1590L-DIN-C	133	83	48	16	A
16.0	3	<input checked="" type="checkbox"/>		MPS1600S-DIN	115	65	48	16	A
	3	<input checked="" type="checkbox"/>		MPS1600S-DIN-C	115	65	48	16	A
	5	<input checked="" type="checkbox"/>		MPS1600L-DIN	133	83	48	16	A
	5	<input checked="" type="checkbox"/>		MPS1600L-DIN-C	133	83	48	16	A
16.1	3	<input type="checkbox"/>		MPS1610S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1610S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1610L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1610L-DIN-C	143	93	48	18	A
16.2	3	<input type="checkbox"/>		MPS1620S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1620S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1620L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1620L-DIN-C	143	93	48	18	A
16.3	3	<input type="checkbox"/>		MPS1630S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1630S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1630L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1630L-DIN-C	143	93	48	18	A

● : Inventory maintained. □ : Non stock, produced to order only.

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
16.4	3	<input type="checkbox"/>		MPS1640S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1640S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1640L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1640L-DIN-C	143	93	48	18	A
16.5	3	<input checked="" type="checkbox"/>		MPS1650S-DIN	123	73	48	18	A
	3	<input checked="" type="checkbox"/>		MPS1650S-DIN-C	123	73	48	18	A
	5	<input checked="" type="checkbox"/>		MPS1650L-DIN	143	93	48	18	A
	5	<input checked="" type="checkbox"/>		MPS1650L-DIN-C	143	93	48	18	A
16.6	3	<input type="checkbox"/>		MPS1660S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1660S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1660L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1660L-DIN-C	143	93	48	18	A
16.7	3	<input type="checkbox"/>		MPS1670S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1670S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1670L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1670L-DIN-C	143	93	48	18	A
16.8	3	<input type="checkbox"/>		MPS1680S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1680S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1680L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1680L-DIN-C	143	93	48	18	A
16.9	3	<input type="checkbox"/>		MPS1690S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1690S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1690L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1690L-DIN-C	143	93	48	18	A
17.0	3	<input checked="" type="checkbox"/>		MPS1700S-DIN	123	73	48	18	A
	3	<input checked="" type="checkbox"/>		MPS1700S-DIN-C	123	73	48	18	A
	5	<input checked="" type="checkbox"/>		MPS1700L-DIN	143	93	48	18	A
	5	<input checked="" type="checkbox"/>		MPS1700L-DIN-C	143	93	48	18	A
17.1	3	<input type="checkbox"/>		MPS1710S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1710S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1710L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1710L-DIN-C	143	93	48	18	A
17.2	3	<input type="checkbox"/>		MPS1720S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1720S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1720L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1720L-DIN-C	143	93	48	18	A
17.3	3	<input type="checkbox"/>		MPS1730S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1730S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1730L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1730L-DIN-C	143	93	48	18	A
17.4	3	<input type="checkbox"/>		MPS1740S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1740S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1740L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1740L-DIN-C	143	93	48	18	A
17.5	3	<input checked="" type="checkbox"/>		MPS1750S-DIN	123	73	48	18	A
	3	<input checked="" type="checkbox"/>		MPS1750S-DIN-C	123	73	48	18	A
	5	<input checked="" type="checkbox"/>		MPS1750L-DIN	143	93	48	18	A
	5	<input checked="" type="checkbox"/>		MPS1750L-DIN-C	143	93	48	18	A
17.6	3	<input type="checkbox"/>		MPS1760S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1760S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1760L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1760L-DIN-C	143	93	48	18	A
17.7	3	<input type="checkbox"/>		MPS1770S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1770S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1770L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1770L-DIN-C	143	93	48	18	A

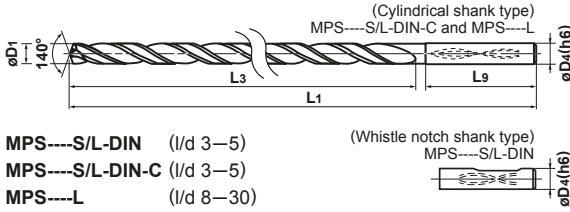
Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
17.8	3	<input type="checkbox"/>		MPS1780S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1780S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1780L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1780L-DIN-C	143	93	48	18	A
17.9	3	<input type="checkbox"/>		MPS1790S-DIN	123	73	48	18	A
	3	<input type="checkbox"/>		MPS1790S-DIN-C	123	73	48	18	A
	5	<input type="checkbox"/>		MPS1790L-DIN	143	93	48	18	A
	5	<input type="checkbox"/>		MPS1790L-DIN-C	143	93	48	18	A
18.0	3	<input checked="" type="checkbox"/>		MPS1800S-DIN	123	73	48	18	A
	3	<input checked="" type="checkbox"/>		MPS1800S-DIN-C	123	73	48	18	A
	5	<input checked="" type="checkbox"/>		MPS1800L-DIN	143	93	48	18	A
	5	<input checked="" type="checkbox"/>		MPS1800L-DIN-C	143	93	48	18	A
18.1	3	<input type="checkbox"/>		MPS1810S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1810S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1810L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1810L-DIN-C	153	101	50	20	A
18.2	3	<input type="checkbox"/>		MPS1820S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1820S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1820L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1820L-DIN-C	153	101	50	20	A
18.3	3	<input type="checkbox"/>		MPS1830S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1830S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1830L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1830L-DIN-C	153	101	50	20	A
18.4	3	<input type="checkbox"/>		MPS1840S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1840S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1840L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1840L-DIN-C	153	101	50	20	A
18.5	3	<input checked="" type="checkbox"/>		MPS1850S-DIN	131	79	50	20	A
	3	<input checked="" type="checkbox"/>		MPS1850S-DIN-C	131	79	50	20	A
	5	<input checked="" type="checkbox"/>		MPS1850L-DIN	153	101	50	20	A
	5	<input checked="" type="checkbox"/>		MPS1850L-DIN-C	153	101	50	20	A
18.6	3	<input type="checkbox"/>		MPS1860S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1860S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1860L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1860L-DIN-C	153	101	50	20	A
18.7	3	<input type="checkbox"/>		MPS1870S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1870S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1870L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1870L-DIN-C	153	101	50	20	A
18.8	3	<input type="checkbox"/>		MPS1880S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1880S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1880L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1880L-DIN-C	153	101	50	20	A
18.9	3	<input type="checkbox"/>		MPS1890S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1890S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1890L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1890L-DIN-C	153	101	50	20	A
19.0	3	<input checked="" type="checkbox"/>		MPS1900S-DIN	131	79	50	20	A
	3	<input checked="" type="checkbox"/>		MPS1900S-DIN-C	131	79	50	20	A
	5	<input checked="" type="checkbox"/>		MPS1900L-DIN	153	101	50	20	A
	5	<input checked="" type="checkbox"/>		MPS1900L-DIN-C	153	101	50	20	A
19.1	3	<input type="checkbox"/>		MPS1910S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1910S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1910L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1910L-DIN-C	153	101	50	20	A

Solid Carbide Drill

MPS/MSL



● Type A Double margin type



D1 Tolerance	3.0≤D1≤6.0	6.0<D1≤10.0	10.0<D1≤18.0	18.0<D1≤20.0
DIN type	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Others	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* MPS-DIN type see table above. Other MPS/MSL drills h7 tolerance.

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
19.2	3	<input type="checkbox"/>		MPS1920S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1920S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1920L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1920L-DIN-C	153	101	50	20	A
19.3	3	<input type="checkbox"/>		MPS1930S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1930S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1930L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1930L-DIN-C	153	101	50	20	A
19.4	3	<input type="checkbox"/>		MPS1940S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1940S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1940L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1940L-DIN-C	153	101	50	20	A
19.5	3	<input checked="" type="checkbox"/>		MPS1950S-DIN	131	79	50	20	A
	3	<input checked="" type="checkbox"/>		MPS1950S-DIN-C	131	79	50	20	A
	5	<input checked="" type="checkbox"/>		MPS1950L-DIN	153	101	50	20	A
	5	<input checked="" type="checkbox"/>		MPS1950L-DIN-C	153	101	50	20	A
19.6	3	<input type="checkbox"/>		MPS1960S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1960S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1960L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1960L-DIN-C	153	101	50	20	A

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		VP15TF			L1	L3	L9	D4	
19.7	3	<input type="checkbox"/>		MPS1970S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1970S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1970L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1970L-DIN-C	153	101	50	20	A
19.8	3	<input type="checkbox"/>		MPS1980S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1980S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1980L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1980L-DIN-C	153	101	50	20	A
19.9	3	<input type="checkbox"/>		MPS1990S-DIN	131	79	50	20	A
	3	<input type="checkbox"/>		MPS1990S-DIN-C	131	79	50	20	A
	5	<input type="checkbox"/>		MPS1990L-DIN	153	101	50	20	A
	5	<input type="checkbox"/>		MPS1990L-DIN-C	153	101	50	20	A
20.0	3	<input checked="" type="checkbox"/>		MPS2000S-DIN	131	79	50	20	A
	3	<input checked="" type="checkbox"/>		MPS2000S-DIN-C	131	79	50	20	A
	5	<input checked="" type="checkbox"/>		MPS2000L-DIN	153	101	50	20	A
	5	<input checked="" type="checkbox"/>		MPS2000L-DIN-C	153	101	50	20	A

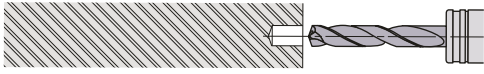
● : Inventory maintained. □ : Non stock, produced to order only.

Operational Guidance

● Guidance for pilot hole drilling and breaking through on irregular and angled surfaces.

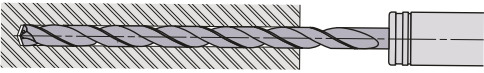
Use Drilling a blind hole

1. Drilling a pilot hole



- ① Use a drill with a larger (flatter) point angle than the super long type. Mitsubishi type MZE, MZS or MS is recommended.
- ② Use a drill with the same diameter as the deep hole drill.
- ③ Drill depth : Approx 2-3D or deeper.
- ④ Ensure a high precision hole is drilled for the guide.

3. Drill the deep hole



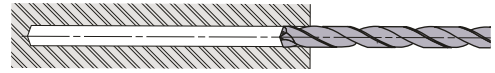
- ① Start cutting at the recommended speed and feed with a non-peck (continuous feed) cycle.

2. Initial cutting with the long type drill.



- ① Penetrate the guide hole at low revolution. (n=300), and a feed rate of Vf=1000
- ② Stop the long type drill 0.5mm-1mm short of the guide hole bottom.

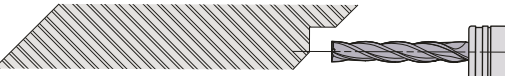
4. Drill retraction



- ① Retract the drill to the pilot hole depth starting point at a feed rate of 3000mm/min.
- ② Finally clear the hole at low revolution. (n=300), and a feed rate of Vf=3000

Use Drilling and breaking through on irregular faces or angles

1. Spot facing



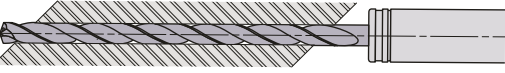
- ① Machine a flat or the irregular face by using an end mill or slot drill capable of spot facing. Make the spot face diameter the same size as the required deep hole diameter.

3. Initial cutting with the long type drill.



- ① Penetrate the guide hole at low revolution. (n=300), and a feed rate of Vf=1000
- ② Stop the long type drill 0.5mm-1mm short of the guide hole bottom.

5. Breaking through



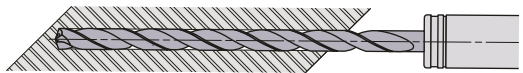
- ① When breaking through, the cutting edge can be damaged
- ② A feed rate of 0.05mm-0.1mm/rev is recommended.

2. Drilling a pilot hole



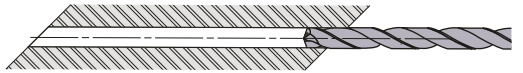
- ① Use a drill with a larger (flatter) point angle than the super long type. Mitsubishi type MZE, MZS or MS is recommended.
- ② Use a drill with the same diameter as the deep hole drill.
- ③ Drill depth : Approx 2-3D or deeper.
- ④ Ensure a high precision hole is drilled for the guide.

4. Drill the deep hole



- ① Start cutting at the recommended speed and feed with a non-peck (continuous feed) cycle.

6. Drill retraction



- ① Retract the drill to the pilot hole depth starting point at a feed rate of 3000mm/min.
- ② Finally clear the hole at low revolution. (n=300), and a feed rate of Vf=3000

Solid Carbide Drill

Recommended Cutting Conditions

● MPS/MSL DRILL (l/d=3–12)

Work Material	Drill Diameter Conditions Hardness	φ3.0–φ6.0		φ6.0–φ10.0		φ10.0–φ14.0		φ14.0–φ20.0	
		Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P Mild Steel	≤ 180HB	110 (50–120)	0.20 (0.15–0.25)	130 (80–140)	0.25 (0.20–0.35)	150 (90–170)	0.30 (0.20–0.40)	160 (100–180)	0.35 (0.20–0.40)
	Carbon Steel Alloy Steel	180–280HB	90 (50–100)	0.20 (0.15–0.25)	110 (70–120)	0.25 (0.20–0.35)	130 (80–140)	0.25 (0.20–0.40)	140 (100–150)
		280–350HB	80 (40–90)	0.20 (0.15–0.30)	90 (60–110)	0.25 (0.15–0.30)	110 (70–130)	0.25 (0.15–0.40)	120 (90–140)
M Stainless Steel	≤ 200HB	50 (20–100)	0.10 (0.05–0.15)	60 (40–120)	0.20 (0.10–0.25)	70 (50–120)	0.25 (0.15–0.30)	80 (60–120)	0.25 (0.15–0.30)
K Cast Iron	Tensile Strength ≤ 350N/mm ²	100 (70–120)	0.25 (0.15–0.30)	130 (100–140)	0.30 (0.20–0.35)	150 (110–160)	0.35 (0.25–0.40)	160 (120–170)	0.35 (0.25–0.40)
	Ductile Cast Iron Tensile Strength ≤ 450N/mm ²	60 (30–80)	0.20 (0.15–0.25)	70 (40–90)	0.20 (0.15–0.30)	90 (50–110)	0.25 (0.20–0.40)	100 (60–110)	0.3 (0.20–0.40)
S Heat Resistant Alloy	–	20 (10–25)	0.10 (0.05–0.15)	25 (15–30)	0.12 (0.05–0.15)	25 (15–30)	0.15 (0.10–0.20)	30 (25–35)	0.15 (0.10–0.20)

● MPS/MSL DRILL (l/d=15–30)

Work Material	Drill Diameter Conditions Hardness	φ3.0–φ6.0		φ6.0–φ10.0		φ10.0–φ14.0	
		Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P Mild Steel	≤ 180HB	85 (35–100)	0.20 (0.15–0.25)	85 (45–120)	0.25 (0.15–0.35)	90 (55–120)	0.30 (0.20–0.35)
	Carbon Steel Alloy Steel	180–280HB	80 (40–95)	0.20 (0.15–0.25)	90 (50–120)	0.25 (0.20–0.35)	90 (60–130)
		280–350HB	75 (35–80)	0.15 (0.15–0.20)	80 (45–115)	0.20 (0.15–0.25)	85 (55–115)
M Stainless Steel	≤ 200HB	50 (20–80)	0.10 (0.05–0.15)	60 (20–90)	0.12 (0.05–0.15)	70 (20–90)	0.15 (0.10–0.20)
K Cast Iron	Tensile Strength ≤ 350N/mm ²	70 (40–85)	0.25 (0.15–0.30)	75 (50–90)	0.30 (0.20–0.35)	80 (50–95)	0.35 (0.20–0.40)
	Ductile Cast Iron Tensile Strength ≤ 450N/mm ²	65 (35–80)	0.20 (0.15–0.25)	70 (45–85)	0.25 (0.15–0.30)	75 (45–90)	0.30 (0.20–0.35)
S Heat Resistant Alloy	–	20 (10–25)	0.10 (0.05–0.15)	25 (15–30)	0.12 (0.05–0.15)	25 (15–30)	0.15 (0.10–0.20)

● MPS DRILL (l/d=40)

Work Material	Drill Diameter Conditions Hardness	φ3.0–φ4.0		φ5.0–φ6.0		φ6.0–φ9.0	
		Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P Mild Steel	≤ 180HB	60 (50–70)	0.18 (0.13–0.20)	70 (55–80)	0.20 (0.15–0.23)	75 (60–85)	0.25 (0.18–0.28)
	Carbon Steel Alloy Steel	180–280HB	55 (40–65)	0.15 (0.10–0.18)	65 (45–75)	0.18 (0.13–0.22)	70 (55–80)
		280–350HB	50 (40–60)	0.12 (0.08–0.15)	55 (40–65)	0.17 (0.13–0.20)	60 (40–75)
M Stainless Steel	≤ 200HB	35 (30–45)	0.10 (0.07–0.15)	40 (30–50)	0.12 (0.08–0.15)	45 (30–60)	0.15 (0.13–0.20)
K Cast Iron	Tensile Strength ≤ 350N/mm ²	55 (35–70)	0.15 (0.10–0.20)	60 (40–65)	0.20 (0.15–0.23)	60 (45–70)	0.23 (0.18–0.28)
	Ductile Cast Iron Tensile Strength ≤ 450N/mm ²	45 (30–60)	0.12 (0.08–0.15)	50 (40–60)	0.17 (0.13–0.20)	55 (40–65)	0.20 (0.15–0.23)
S Heat Resistant Alloy	–	15 (10–25)	0.07 (0.05–0.10)	20 (10–25)	0.07 (0.05–0.10)	20 (10–25)	0.10 (0.06–0.12)

Machining conditions can vary greatly, please use the above tables as a reference starting point only and adjust the values according to the conditions. For drill lengths greater than l/d=10 it is recommended to drill a pilot hole.



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