

MPS/MSL *Extra Large*

Nueva geometría de hélice y con un filo de corte ondulado. Para múltiples aplicaciones en un mecanizado preciso y eficiente.

MPS --- L/D= 8-30

MSL --- L/D= 20-30

MPS

Nuevo tipo de taladrado para alto rendimiento. Broca con doble margen en la hélice para un mecanizado de gran precisión.

MPS --- L/D= 3-5

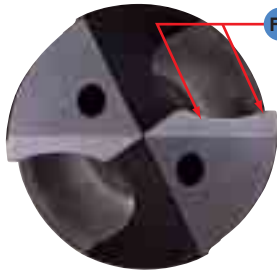


Brocas MPS/MSL

Características

- Filo de corte ondulado para mejores resultados en taladrado.
- Hélice con doble margen para agujeros de gran precisión.
- Recubrimiento de Miracle VP15TF para una vida de la herramienta más larga.

Forma del filo de corte



Forma del filo de corte

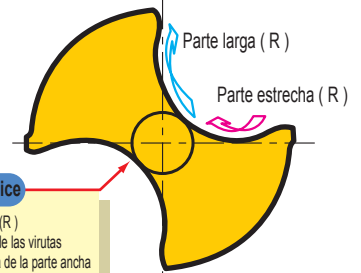
El diseño ondulado del filo de corte mejora el rendimiento de corte periférico con un fuerte corte inicial cerca del centro.

Hélice con doble margen

El tipo con doble margen está diseñado para dar mayor precisión en el agujero y mejorar la superficie de acabado comparando con la broca tradicional.



Forma del corte seccional

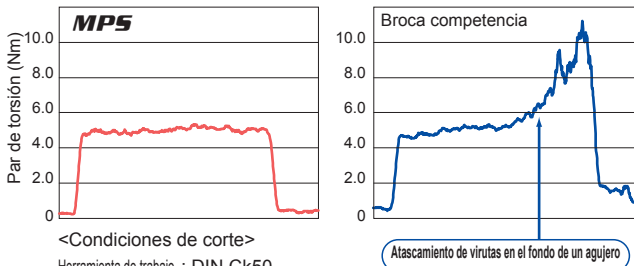


Borde superior de la hélice

La geometría de la parte estrecha (R) genera un encrespamiento inicial de las virutas pero al combinar con la geometría de la parte ancha se produce una suave evacuación de las virutas.

Excelente desprendimiento de virutas

Una geometría especial en la parte superior de la hélice permite un control de virutas superior.



<Condiciones de corte>

Herramienta de trabajo : DIN Ck50
 Diámetro de la broca : $\varnothing 8\text{mm}$
 Profundidad del agujero : 64mm (Agujero pasante)
 Velocidad de corte : 120m/min
 Avance : 0,25mm/rev
 Refrigerante : WSO

Tecnología de material

- Recubrimiento **VP15TF MIRACLE**® para una larga vida de la herramienta



Recubrimiento **MIRACLE**® (Al,Ti)N
 Metal duro micrograno TF15

Recubrimiento **MIRACLE**®

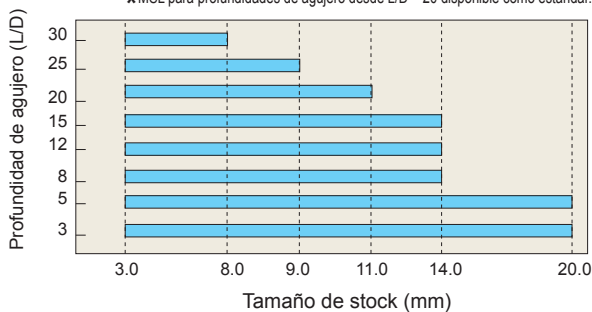
Características de VP15TF

El recubrimiento MIRACLE es ideal para taladrar gracias a su elevada resistencia al recrimiento del filo. Es apto para el mecanizado de una amplia gama de materiales, desde el acero dulce y el acero aleado hasta el acero inoxidable y la fundición.

Una amplia selección de brocas

El rango incluye brocas para profundidades de agujero de L/D = 3 - 30.

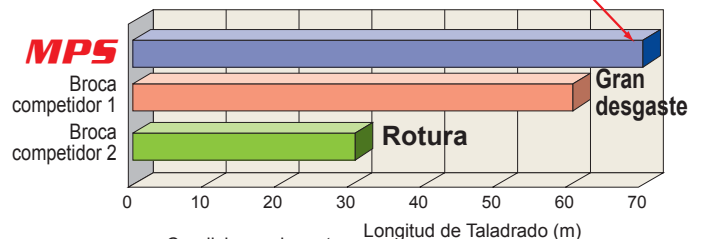
- *MPS para profundidades de agujero hasta L/D = 15 disponible como estándar.
- *MSL para profundidades de agujero desde L/D = 20 disponible como estándar.



Larga vida de la herramienta

La geometría especial del filo de corte y la avanzada tecnología del material mejora la durabilidad.

Posibilidad de continuar taladrando.

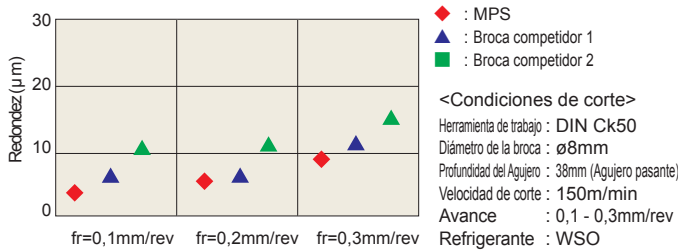


<Condiciones de corte>

Herramienta de trabajo : DIN Ck50
 Diámetro de la broca : $\varnothing 8\text{mm}$
 Profundidad del agujero : 38mm (Agujero pasante)
 Velocidad de corte : 140m/min
 Avance : 0,3mm/rev
 Refrigerante : WSO

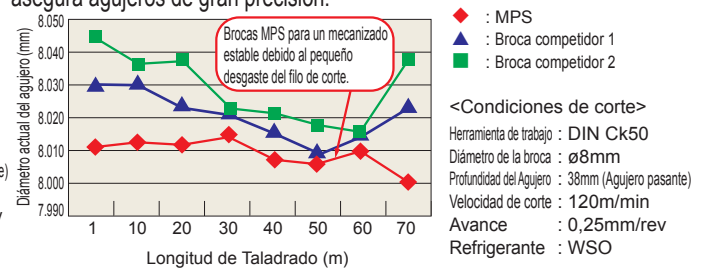
Rendimiento de corte

Alta precisión (Redondez)



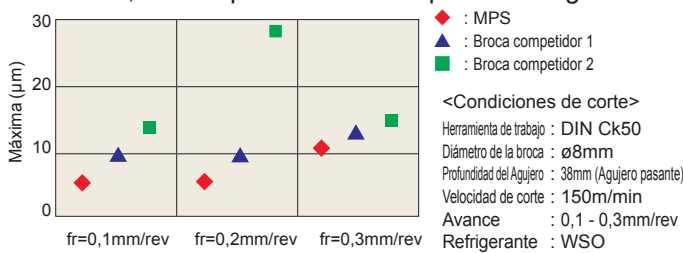
Alta precisión (Diámetro actual agujero)

La geometría especial del filo de corte y la nueva tecnología de materiales asegura agujeros de gran precisión.



Alta precisión (Rugosidad superficial)

MPS/MSL, brocas para acabado superficial de grandes agujeros.



Guía operacional

Guía para taladrar agujeros profundos a través de superficies irregulares ó angulares.

Uso Taladrar un agujero ciego

- 1. Taladrado de un agujero previo.**
 - Utilice una broca con un ángulo de punta mayor (más plano) que el tipo de broca extralarga. Se recomiendan los tipos MZE, MZS o MS de Mitsubishi.
 - Utilice una broca con el mismo diámetro que la broca para taladrado de agujeros profundos.
 - Profundidad de la broca: aprox. 2-3D o más profunda.
 - Asegúrese de que el agujero guía taladrado sea muy preciso.
- 2. Corte inicial con la broca larga.**
 - Penetre el agujero guía a una revolución baja. (Velocidad de corte 20 m-30 m/min, avance 0,2 mm-0,3 mm/rev)
 - Detenga la broca larga a 1-3 mm del final del agujero guía.
- 3. Taladrado del agujero profundo**
 - Inicie el corte a la velocidad y avance recomendados mediante un taladrado de avance continuo.
- 4. Retracción de la broca**
 - Cuando esté a 1-2 mm del fondo del agujero profundo, reduzca la velocidad de corte a 20 m-30 m/min. Retire la broca hasta el punto de inicio de profundidad del agujero piloto a un avance de 3.000 mm/min.
 - Finalmente, despeje el agujero a una velocidad de corte de 20 m-30 m/min y un avance de 0,2 mm-0,3 mm/rev.

Uso Taladrado y penetración en caras o ángulos irregulares

- 1. Refrentado**
 - Mecanice una cara plana o la cara irregular utilizando una fresa de metal duro o broca ranurada apta para refrentado. Haga que el diámetro de refrentado sea del mismo tamaño que el diámetro exigido para el agujero profundo o hasta 0,1 mm superior.
- 2. Taladrado de un agujero previo.**
 - Utilice una broca con un ángulo de punta mayor (más plano) que el tipo de broca extralarga. Se recomiendan los tipos MZE, MZS o MS de Mitsubishi.
 - Utilice una broca con el mismo diámetro que la broca para taladrado de agujeros profundos.
 - Profundidad de la broca: aprox. 2-3D o más profunda.
 - Asegúrese de que el agujero guía taladrado sea muy preciso.
- 3. Corte inicial con la broca larga**
 - Penetre el agujero guía a una revolución baja. (Velocidad de corte 20 m-30 m/min, avance 0,2 mm-0,3 mm/rev)
 - Detenga la broca larga a 1-3 mm del final del agujero guía.
- 4. Taladrado del agujero profundo**
 - Inicie el corte a la velocidad y avance recomendados mediante un taladrado de avance continuo.
- 5. Penetración**
 - Durante la penetración, el filo de corte puede resultar dañado.
 - Se recomienda un avance de 0,05 mm-0,1 mm/rev.
- 6. Retracción de la broca**
 - Retire la broca hasta el punto de inicio de profundidad del agujero piloto a un avance de 3.000 mm/min.
 - Finalmente, despeje el agujero a una velocidad de corte de 20 m-30 m/min y un avance de 0,2 mm-0,3 mm/rev.



MPS/MSL

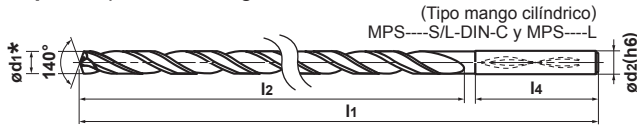
MPS/MSL brocas



Tolerancia d1	3.0 ≤ d1 ≤ 6.0	6.0 < d1 ≤ 10.0	10.0 < d1 ≤ 18.0	18.0 < d1 ≤ 20.0
Tipo DIN	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Otros	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* Tipo MPS-DIN ver tabla de arriba. Otros brocas MPS/MSL tolerancias h7.

● Tipo A Tipo doble margen

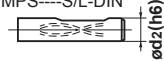


MPS---S/L-DIN (l/d 3-5)

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

MPS---L (l/d 8-30)

(Mango tipo Whistle notch)
MPS---S/L-DIN



● Tipo B Tipo margen estandar



MSL (l/d 20-30)

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock VPI5TF	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
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
	20	●	MSL0300-L20C	110	70	36	6	B
25	●	MSL0300-L25C	125	85	36	6	B	
30	●	MSL0300-L30C	140	100	36	6	B	
3.1	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
	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
	20	□	MPS0320-L20C	122	82	36	6	A
	25	□	MPS0320-L25C	139	99	36	6	A
	30	□	MPS0320-L30C	157	117	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	

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock VPI5TF	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
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
	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
	20	●	MSL0340-L20C	122	82	36	6	B
25	●	MSL0340-L25C	139	99	36	6	B	
30	●	MSL0340-L30C	157	117	36	6	B	
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
	20	●	MSL0350-L20C	122	82	36	6	B
25	●	MSL0350-L25C	139	99	36	6	B	
30	●	MSL0350-L30C	157	117	36	6	B	

●: Stock

★: Stock en Japón

□: A fabricar según demanda

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock		Referencia	Dimensiones (mm)				Tipo
		VP15TF			l1	l2	l4	d2	
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
	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
	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
	20	●		MSL0380-L20C	133	93	36	6	B
25	●		MSL0380-L25C	153	113	36	6	B	
30	●		MSL0380-L30C	173	133	36	6	B	
3.9	3	●		MPS0390S-DIN	66	24	36	6	A
	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
	20	●		MSL0390-L20C	133	93	36	6	B
25	●		MSL0390-L25C	153	113	36	6	B	
30	●		MSL0390-L30C	173	133	36	6	B	

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock		Referencia	Dimensiones (mm)				Tipo
		VP15TF			l1	l2	l4	d2	
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
	20	●		MSL0400-L20C	133	93	36	6	B
25	●		MSL0400-L25C	153	113	36	6	B	
30	●		MSL0400-L30C	173	133	36	6	B	
4.1	3	●		MPS0410S-DIN	66	24	36	6	A
	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
	20	●		MSL0410-L20C	145	105	36	6	B
25	●		MSL0410-L25C	167	127	36	6	B	
30	●		MSL0410-L30C	190	150	36	6	B	
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
	20	●		MSL0420-L20C	145	105	36	6	B
25	●		MSL0420-L25C	167	127	36	6	B	
30	●		MSL0420-L30C	190	150	36	6	B	
4.3	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
	20	●		MSL0430-L20C	145	105	36	6	B
25	●		MSL0430-L25C	167	127	36	6	B	
30	●		MSL0430-L30C	190	150	36	6	B	



MPS/MSL

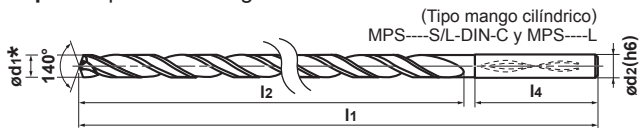
MPS/MSL brocas



Tolerancia d1	3.0 ≤ d1 ≤ 6.0	6.0 < d1 ≤ 10.0	10.0 < d1 ≤ 18.0	18.0 < d1 ≤ 20.0
Tipo DIN	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Otros	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* Tipo MPS-DIN ver tabla de arriba. Otros brocas MPS/MSL tolerancias h7.

● Tipo A Tipo doble margen

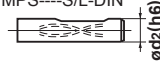


MPS---S/L-DIN (l/d 3-5)

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

MPS---L (l/d 8-30)

(Mango tipo Whistle notch)
MPS---S/L-DIN



● Tipo B Tipo margen estandar



MSL (l/d 20-30)

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
4.4	3	●	MPS0440S-DIN	66	24	36	6	A
	3	●	MPS0440S-DIN-C	66	24	36	6	A
	5	●	MPS0440L-DIN	74	36	36	6	A
	5	●	MPS0440L-DIN-C	74	36	36	6	A
	8	●	MPS0440-L8C	91	51	36	6	A
	10	□	MPS0440-L10C	100	60	36	6	A
	12	●	MPS0440-L12C	109	69	36	6	A
	15	●	MPS0440-L15C	122	82	36	6	A
	20	□	MPS0440-L20C	145	105	36	6	A
	25	□	MPS0440-L25C	167	127	36	6	A
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
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
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
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
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

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
4.4	3	●	MPS0440S-DIN	66	24	36	6	A
	3	●	MPS0440S-DIN-C	66	24	36	6	A
	5	●	MPS0440L-DIN	74	36	36	6	A
	5	●	MPS0440L-DIN-C	74	36	36	6	A
	8	●	MPS0440-L8C	91	51	36	6	A
	10	□	MPS0440-L10C	100	60	36	6	A
	12	●	MPS0440-L12C	109	69	36	6	A
	15	●	MPS0440-L15C	122	82	36	6	A
	20	□	MPS0440-L20C	145	105	36	6	A
	25	□	MPS0440-L25C	167	127	36	6	A
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
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
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
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
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

● : Stock
 ★ : Stock en Japón
 □ : A fabricar según demanda

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock		Referencia	Dimensiones (mm)				Tipo
		VP15TF			l1	l2	l4	d2	
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
	20	●		MSL0500-L20C	156	116	36	6	B
25	●		MSL0500-L25C	181	141	36	6	B	
30	●		MSL0500-L30C	206	166	36	6	B	
5.1	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
	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
	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
	20	●		MSL0530-L20C	168	128	36	6	B
25	●		MSL0530-L25C	195	155	36	6	B	
30	●		MSL0530-L30C	223	183	36	6	B	

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock		Referencia	Dimensiones (mm)				Tipo
		VP15TF			l1	l2	l4	d2	
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
	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
	20	●		MSL0550-L20C	168	128	36	6	B
25	●		MSL0550-L25C	195	155	36	6	B	
30	●		MSL0550-L30C	223	183	36	6	B	
5.6	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
	20	□		MPS0560-L20C	179	139	36	6	A
	25	□		MPS0560-L25C	209	169	36	6	A
	30	□		MPS0560-L30C	239	199	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
	20	●		MSL0570-L20C	179	139	36	6	B
25	●		MSL0570-L25C	209	169	36	6	B	
30	●		MSL0570-L30C	239	199	36	6	B	



MPS/MSL

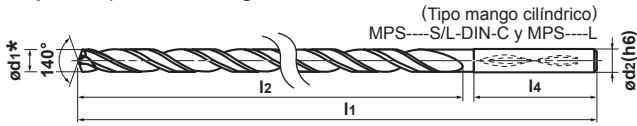
MPS/MSL brocas



Tolerancia d1	3.0 ≤ d1 ≤ 6.0	6.0 < d1 ≤ 10.0	10.0 < d1 ≤ 18.0	18.0 < d1 ≤ 20.0
Tipo DIN	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Otros	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* Tipo MPS-DIN ver tabla de arriba. Otros brocas MPS/MSL tolerancias h7.

● Tipo A Tipo doble margen



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

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

MPS---L (l/d 8-30)

(Mango tipo Whistle notch)

MPS---S/L-DIN

MPS---L

● Tipo B Tipo margen estandar



MSL (l/d 20-30)

Díam. Broca d1 (mm)	Profundidad agujero (l/d)	Stock	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
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
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
	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
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
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
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	73	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
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
6.0	3	●	MSL0580-L20C	179	139	36	6	B
	25	●	MSL0580-L25C	209	169	36	6	B
	30	●	MSL0580-L30C	239	199	36	6	B
	20	●	MSL0590-L20C	179	139	36	6	B
	25	●	MSL0590-L25C	209	169	36	6	B
	30	●	MSL0590-L30C	239	199	36	6	B
	20	●	MSL0600-L20C	179	139	36	6	B
	25	●	MSL0600-L25C	209	169	36	6	B
	30	●	MSL0600-L30C	239	199	36	6	B
	20	●	MSL0610-L20C	191	151	36	8	B
25	●	MSL0610-L25C	223	183	36	8	B	
30	●	MSL0610-L30C	256	216	36	8	B	
6.1	3	●	MSL0620-L20C	191	151	36	8	B
	25	●	MSL0620-L25C	223	183	36	8	B
	30	●	MSL0620-L30C	256	216	36	8	B
	3	●	MSL0630-L20C	191	151	36	8	B
	25	●	MSL0630-L25C	223	183	36	8	B
	30	●	MSL0630-L30C	256	216	36	8	B

Díam. Broca d1 (mm)	Profundidad agujero (l/d)	Stock	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
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
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	73	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
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

● : Stock
 ★ : Stock en Japón
 □ : A fabricar según demanda

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock		Referencia	Dimensiones (mm)				Tipo
		VPI	15TF		l1	l2	l4	d2	
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
	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
	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
	20	□		MPS0660-L20C	202	162	36	8	A
	25	□		MPS0660-L25C	237	197	36	8	A
	30	□		MPS0660-L30C	272	232	36	8	A
	20	●		MSL0660-L20C	202	162	36	8	B
25	●		MSL0660-L25C	237	197	36	8	B	
30	●		MSL0660-L30C	272	232	36	8	B	
6.7	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	□		MPS0670-L10C	132	92	36	8	A
	12	●		MPS0670-L12C	146	106	36	8	A
	15	●		MPS0670-L15C	167	127	36	8	A
	20	□		MPS0670-L20C	202	162	36	8	A
	25	□		MPS0670-L25C	237	197	36	8	A
	30	□		MPS0670-L30C	272	232	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	

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock		Referencia	Dimensiones (mm)				Tipo
		VPI	15TF		l1	l2	l4	d2	
6.8	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	□		MPS0680-L10C	132	92	36	8	A
	12	●		MPS0680-L12C	146	106	36	8	A
	15	●		MPS0680-L15C	167	127	36	8	A
	20	□		MPS0680-L20C	202	162	36	8	A
	25	□		MPS0680-L25C	237	197	36	8	A
	30	□		MPS0680-L30C	272	232	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	
6.9	3	●		MPS0690S-DIN	79	34	36	8	A
	3	●		MPS0690S-DIN-C	79	34	36	8	A
	5	●		MPS0690L-DIN	91	53	36	8	A
	5	●		MPS0690L-DIN-C	91	53	36	8	A
	8	●		MPS0690-L8C	118	78	36	8	A
	10	□		MPS0690-L10C	132	92	36	8	A
	12	●		MPS0690-L12C	146	106	36	8	A
	15	●		MPS0690-L15C	167	127	36	8	A
	20	□		MPS0690-L20C	202	162	36	8	A
	25	□		MPS0690-L25C	237	197	36	8	A
	30	□		MPS0690-L30C	272	232	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	
7.0	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	□		MPS0700-L10C	132	92	36	8	A
	12	●		MPS0700-L12C	146	106	36	8	A
	15	●		MPS0700-L15C	167	127	36	8	A
	20	□		MPS0700-L20C	202	162	36	8	A
	25	□		MPS0700-L25C	237	197	36	8	A
	30	□		MPS0700-L30C	272	232	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	□		MPS0710-L10C	139	99	36	8	A
	12	●		MPS0710-L12C	154	114	36	8	A
	15	●		MPS0710-L15C	176	136	36	8	A
	20	□		MPS0710-L20C	214	174	36	8	A
	25	□		MPS0710-L25C	251	211	36	8	A
	30	□		MPS0710-L30C	289	249	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	



MPS/MSL

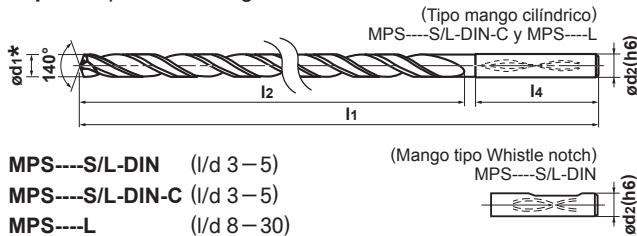
MPS/MSL brocas



Tolerancia d1	3.0 ≤ d1 ≤ 6.0	6.0 < d1 ≤ 10.0	10.0 < d1 ≤ 18.0	18.0 < d1 ≤ 20.0
Tipo DIN	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Otros	0 -0.012	0 -0.015	0 -0.018	0 -0.021

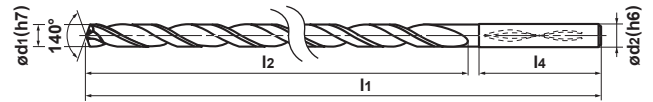
* Tipo MPS-DIN ver tabla de arriba. Otros brocas MPS/MSL tolerancias h7.

● Tipo A Tipo doble margen



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

● Tipo B Tipo margen estandar



MSL (l/d 20-30)

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock VP15TF	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
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
	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
	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
	20	●	MSL0740-L20C	214	174	36	8	B
25	●	MSL0740-L25C	251	211	36	8	B	
30	●	MSL0740-L30C	289	249	36	8	B	

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock VP15TF	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
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
	30	□	MPS0750-L30C	289	249	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
	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
	20	●	MSL0770-L20C	225	185	36	8	B
25	●	MSL0770-L25C	265	225	36	8	B	
30	●	MSL0770-L30C	305	265	36	8	B	

● : Stock
★ : Stock en Japón
□ : A fabricar según demanda

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock		Referencia	Dimensiones (mm)				Tipo
		VP15TF			l1	l2	l4	d2	
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
	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
	10	□		MPS0790-L10C	145	105	36	8	A
	12	●		MPS0790-L12C	161	121	36	8	A
	15	●		MPS0790-L15C	185	145	36	8	A
	20	□		MPS0790-L20C	225	185	36	8	A
	25	□		MPS0790-L25C	265	225	36	8	A
	30	□		MPS0790-L30C	305	265	36	8	A
	20	●		MSL0790-L20C	225	185	36	8	B
	25	●		MSL0790-L25C	265	225	36	8	B
	30	●		MSL0790-L30C	305	265	36	8	B
8.0	3	●		MPS0800S-DIN	79	41	36	8	A
	3	●		MPS0800S-DIN-C	79	41	36	8	A
	5	●		MPS0800L-DIN	91	53	36	8	A
	5	●		MPS0800L-DIN-C	91	53	36	8	A
	8	●		MPS0800-L8C	129	89	36	8	A
	10	□		MPS0800-L10C	145	105	36	8	A
	12	●		MPS0800-L12C	161	121	36	8	A
	15	●		MPS0800-L15C	185	145	36	8	A
	20	□		MPS0800-L20C	225	185	36	8	A
	25	□		MPS0800-L25C	265	225	36	8	A
	30	□		MPS0800-L30C	305	265	36	8	A
	20	●		MSL0800-L20C	225	185	36	8	B
	25	●		MSL0800-L25C	265	225	36	8	B
	30	●		MSL0800-L30C	305	265	36	8	B
8.1	3	●		MPS0810S-DIN	88	46	40	10	A
	3	●		MPS0810S-DIN-C	88	46	40	10	A
	5	●		MPS0810L-DIN	102	60	40	10	A
	5	●		MPS0810L-DIN-C	102	60	40	10	A
	8	●		MPS0810-L8C	139	95	40	10	A
	10	□		MPS0810-L10C	156	112	40	10	A
	12	●		MPS0810-L12C	173	129	40	10	A
	15	●		MPS0810-L15C	198	154	40	10	A
	20	□		MPS0810-L20C	241	197	40	10	A
	25	□		MPS0810-L25C	283	239	40	10	A
	20	●		MSL0810-L20C	241	197	40	10	B
	25	●		MSL0810-L25C	283	239	40	10	B

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock		Referencia	Dimensiones (mm)				Tipo	
		VP15TF			l1	l2	l4	d2		
8.2	3	●		MPS0820S-DIN	88	46	40	10	A	
	3	●		MPS0820S-DIN-C	88	46	40	10	A	
	5	●		MPS0820L-DIN	102	60	40	10	A	
	5	●		MPS0820L-DIN-C	102	60	40	10	A	
	8	●		MPS0820-L8C	139	95	40	10	A	
	10	□		MPS0820-L10C	156	112	40	10	A	
	12	●		MPS0820-L12C	173	129	40	10	A	
	15	●		MPS0820-L15C	198	154	40	10	A	
	20	□		MPS0820-L20C	241	197	40	10	A	
	25	□		MPS0820-L25C	283	239	40	10	A	
	20	●		MSL0820-L20C	241	197	40	10	B	
	25	●		MSL0820-L25C	283	239	40	10	B	
	8.3	3	●		MPS0830S-DIN	88	46	40	10	A
		3	●		MPS0830S-DIN-C	88	46	40	10	A
5		●		MPS0830L-DIN	102	60	40	10	A	
5		●		MPS0830L-DIN-C	102	60	40	10	A	
8		●		MPS0830-L8C	139	95	40	10	A	
10		□		MPS0830-L10C	156	112	40	10	A	
12		●		MPS0830-L12C	173	129	40	10	A	
15		●		MPS0830-L15C	198	154	40	10	A	
20		□		MPS0830-L20C	241	197	40	10	A	
25		□		MPS0830-L25C	283	239	40	10	A	
20		●		MSL0830-L20C	241	197	40	10	B	
25		●		MSL0830-L25C	283	239	40	10	B	
8.4		3	●		MPS0840S-DIN	88	46	40	10	A
		3	●		MPS0840S-DIN-C	88	46	40	10	A
	5	●		MPS0840L-DIN	102	60	40	10	A	
	5	●		MPS0840L-DIN-C	102	60	40	10	A	
	8	●		MPS0840-L8C	139	95	40	10	A	
	10	□		MPS0840-L10C	156	112	40	10	A	
	12	●		MPS0840-L12C	173	129	40	10	A	
	15	●		MPS0840-L15C	198	154	40	10	A	
	20	□		MPS0840-L20C	241	197	40	10	A	
	25	□		MPS0840-L25C	283	239	40	10	A	
	20	●		MSL0840-L20C	241	197	40	10	B	
	25	●		MSL0840-L25C	283	239	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	
20		●		MSL0850-L20C	241	197	40	10	B	
25		●		MSL0850-L25C	283	239	40	10	B	



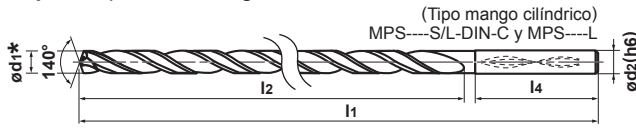
MPS/MSL brocas



Tolerancia d1	3.0 ≤ d1 ≤ 6.0	6.0 < d1 ≤ 10.0	10.0 < d1 ≤ 18.0	18.0 < d1 ≤ 20.0
Tipo DIN	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Otros	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* Tipo MPS-DIN ver tabla de arriba. Otros brocas MPS/MSL tolerancias h7.

● Tipo A Tipo doble margen



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

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

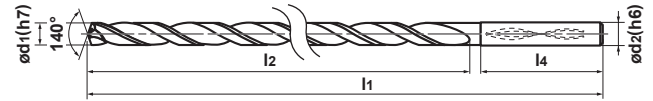
MPS---L (l/d 8-25)

(Mango tipo Whistle notch)

MPS---S/L-DIN



● Tipo B Tipo margen estandar



MSL (l/d 20-25)

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock VP15TF	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
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
8.7	20	●	MSL0860-L20C	252	208	40	10	B
	25	●	MSL0860-L25C	297	253	40	10	B
	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
8.8	20	□	MPS0870-L20C	252	208	40	10	A
	25	□	MPS0870-L25C	297	253	40	10	A
	20	●	MSL0870-L20C	252	208	40	10	B
	25	●	MSL0870-L25C	297	253	40	10	B
	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
8.9	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
	20	●	MSL0880-L20C	252	208	40	10	B
	25	●	MSL0880-L25C	297	253	40	10	B

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock VP15TF	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
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
9.0	20	●	MSL0890-L20C	252	208	40	10	B
	25	●	MSL0890-L25C	297	253	40	10	B
	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
9.1	20	□	MPS0900-L20C	252	208	40	10	A
	25	□	MPS0900-L25C	297	253	40	10	A
	20	●	MSL0900-L20C	252	208	40	10	B
	25	●	MSL0900-L25C	297	253	40	10	B
	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
8.6	12	●	MPS0910-L12C	189	145	40	10	A
	15	●	MPS0910-L15C	217	173	40	10	A
	20	□	MPS0910-L20C	265	221	40	10	A
	20	●	MSL0910-L20C	265	221	40	10	B

● : Stock
★ : Stock en Japón
□ : A fabricar según demanda

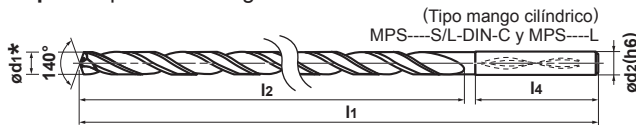
Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock		Referencia	Dimensiones (mm)				Tipo
		VP15TF			l1	l2	l4	d2	
9.2	3	●		MPS0920S-DIN	89	47	40	10	A
	3	●		MPS0920S-DIN-C	89	47	40	10	A
	5	●		MPS0920L-DIN	103	62	40	10	A
	5	●		MPS0920L-DIN-C	103	62	40	10	A
	8	●		MPS0920-L8C	151	107	40	10	A
	10	□		MPS0920-L10C	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
	20	●		MSL0920-L20C	265	221	40	10	B
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
	20	●		MSL0930-L20C	265	221	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
	20	●		MSL0940-L20C	265	221	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
	20	●		MSL0950-L20C	265	221	40	10	B
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
	20	●		MSL0960-L20C	276	232	40	10	B

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock		Referencia	Dimensiones (mm)				Tipo
		VP15TF			l1	l2	l4	d2	
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
	20	●		MSL0970-L20C	276	232	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
	20	●		MSL0980-L20C	276	232	40	10	B
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
	20	●		MSL0990-L20C	276	232	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
	20	●		MSL1000-L20C	276	232	40	10	B
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
	20	●		MSL1010-L20C	293	244	45	12	B

MPS/MSL brocas



● Tipo A Tipo doble margen



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

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

MPS---L (l/d 8-15)

(Tipo mango cilíndrico)

MPS---S/L-DIN-C y MPS---L

(Mango tipo Whistle notch)

MPS---S/L-DIN

● Tipo B Tipo margen estándar



MSL (l/d 20)

Tolerancia d1	3.0 ≤ d1 ≤ 6.0	6.0 < d1 ≤ 10.0	10.0 < d1 ≤ 18.0	18.0 < d1 ≤ 20.0
Tipo DIN	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Otros	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* Tipo MPS-DIN ver tabla de arriba. Otros brocas MPS/MSL tolerancias h7.

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock VP15TF	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
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
20	●	MSL1020-L20C	293	244	45	12	B	
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
20	●	MSL1030-L20C	293	244	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
20	●	MSL1040-L20C	293	244	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
20	●	MSL1050-L20C	293	244	45	12	B	

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock VP15TF	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
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
20	●	MSL1060-L20C	304	255	45	12	B	
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
20	●	MSL1070-L20C	304	255	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
20	●	MSL1080-L20C	304	255	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
20	●	MSL1090-L20C	304	255	45	12	B	

● : Stock
 ★ : Stock en Japón
 □ : A fabricar según demanda

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock		Referencia	Dimensiones (mm)				Tipo
		VP15TF			l1	l2	l4	d2	
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
	12	●		MPS1100-L12C	216	167	45	12	A
	15	●		MPS1100-L15C	249	200	45	12	A
	20	□		MPS1100-L20C	304	255	45	12	A
20	●		MSL1100-L20C	304	255	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	
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	
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	
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	
11.5	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	

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock		Referencia	Dimensiones (mm)				Tipo
		VP15TF			l1	l2	l4	d2	
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
	11.7	3	●		MPS1170S-DIN	102	55	45	12
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	
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	
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	
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	
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	



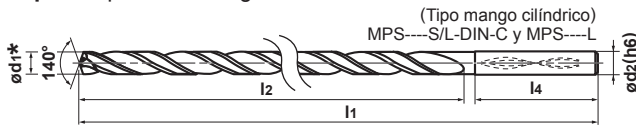
MPS/MSL brocas



Tolerancia d1	3.0 ≤ d1 ≤ 6.0	6.0 < d1 ≤ 10.0	10.0 < d1 ≤ 18.0	18.0 < d1 ≤ 20.0
Tipo DIN	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Otros	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* Tipo MPS-DIN ver tabla de arriba. Otros brocas MPS/MSL tolerancias h7.

● Tipo A Tipo doble margen



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

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

MPS---L (l/d 8-15)

(Mango tipo Whistle notch)

MPS---S/L-DIN

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock VP15TF	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
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
12.3	15	●	MPS1220-L15C	276	227	45	14	A
	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
12.4	12	●	MPS1230-L12C	239	190	45	14	A
	15	●	MPS1230-L15C	276	227	45	14	A
	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
12.5	10	□	MPS1240-L10C	214	165	45	14	A
	12	●	MPS1240-L12C	239	190	45	14	A
	15	●	MPS1240-L15C	276	227	45	14	A
	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
12.6	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
	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
12.7	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

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock VP15TF	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
12.8	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
12.9	15	●	MPS1270-L15C	285	236	45	14	A
	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
13.0	12	●	MPS1280-L12C	246	197	45	14	A
	15	●	MPS1280-L15C	285	236	45	14	A
	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
13.1	10	□	MPS1290-L10C	220	171	45	14	A
	12	●	MPS1290-L12C	246	197	45	14	A
	15	●	MPS1290-L15C	285	236	45	14	A
	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
13.2	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
	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
13.3	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

● : Stock

★ : Stock en Japón

□ : A fabricar según demanda

Diám. Broca	Profundidad agujero	Stock		Referencia	Dimensiones (mm)				Tipo
		VPI5TF			l1	l2	l4	d2	
d1 (mm)	(l/d)								
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	
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	
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	
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	
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
	8	●		MPS1360-L8C	205	156	45	14	A
	10	□		MPS1360-L10C	233	184	45	14	A
	12	●		MPS1360-L12C	261	212	45	14	A
15	●		MPS1360-L15C	303	254	45	14	A	
13.7	3	●		MPS1370S-DIN	107	60	45	14	A
	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	
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	

Diám. Broca	Profundidad agujero	Stock		Referencia	Dimensiones (mm)				Tipo
		VPI5TF			l1	l2	l4	d2	
d1 (mm)	(l/d)								
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	
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	
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	A
	3	●		MPS1420S-DIN-C	114	64	48	16	A
	5	●		MPS1420L-DIN	132	82	48	16	A
14.3	3	□		MPS1430S-DIN	114	64	48	16	A
	3	□		MPS1430S-DIN-C	114	64	48	16	A
	5	□		MPS1430L-DIN	132	82	48	16	A
14.4	3	□		MPS1440S-DIN	114	64	48	16	A
	3	□		MPS1440S-DIN-C	114	64	48	16	A
	5	□		MPS1440L-DIN	132	82	48	16	A
14.5	3	●		MPS1450S-DIN	114	64	48	16	A
	3	●		MPS1450S-DIN-C	114	64	48	16	A
	5	●		MPS1450L-DIN	132	82	48	16	A
14.6	3	□		MPS1460S-DIN	114	64	48	16	A
	3	□		MPS1460S-DIN-C	114	64	48	16	A
	5	□		MPS1460L-DIN	132	82	48	16	A
14.7	3	□		MPS1470S-DIN	114	64	48	16	A
	3	□		MPS1470S-DIN-C	114	64	48	16	A
	5	□		MPS1470L-DIN	132	82	48	16	A
14.8	3	□		MPS1480S-DIN	114	64	48	16	A
	3	□		MPS1480S-DIN-C	114	64	48	16	A
	5	□		MPS1480L-DIN	132	82	48	16	A
14.9	3	□		MPS1490S-DIN	114	64	48	16	A
	3	□		MPS1490S-DIN-C	114	64	48	16	A
	5	□		MPS1490L-DIN	132	82	48	16	A
15.0	3	●		MPS1500S-DIN	114	64	48	16	A
	3	●		MPS1500S-DIN-C	114	64	48	16	A
	5	●		MPS1500L-DIN	132	82	48	16	A



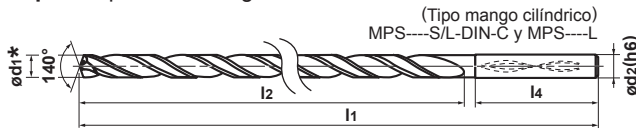
MPS/MSL brocas



Tolerancia d1	3.0 ≤ d1 ≤ 6.0	6.0 < d1 ≤ 10.0	10.0 < d1 ≤ 18.0	18.0 < d1 ≤ 20.0
Tipo DIN	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Otros	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* Tipo MPS-DIN ver tabla de arriba. Otros brocas MPS/MSL tolerancias h7.

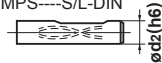
● Tipo A Tipo doble margen



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

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

(Mango tipo Whistle notch)
MPS---S/L-DIN



Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock VP15TF	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
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
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

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock VP15TF	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
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
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

● : Stock
★ : Stock en Japón
□ : A fabricar según demanda

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock		Referencia	Dimensiones (mm)				Tipo
		VP15TF			l1	l2	l4	d2	
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
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

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock		Referencia	Dimensiones (mm)				Tipo
		VP15TF			l1	l2	l4	d2	
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
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



MPS/MSL

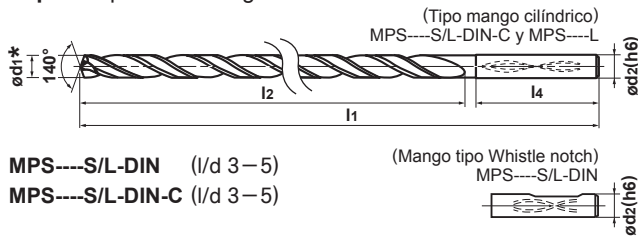
MPS/MSL brocas



Tolerancia d1	3.0 ≤ d1 ≤ 6.0	6.0 < d1 ≤ 10.0	10.0 < d1 ≤ 18.0	18.0 < d1 ≤ 20.0
Tipo DIN	0.010 -0.002	0.010 -0.005	0.005 -0.013	0.005 -0.016
Otros	0 -0.012	0 -0.015	0 -0.018	0 -0.021

* Tipo MPS-DIN ver tabla de arriba. Otros brocas MPS/MSL tolerancias h7.

● Tipo A Tipo doble margen



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

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

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock VP15TF	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
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

Diám. Broca d1 (mm)	Profundidad agujero (l/d)	Stock VP15TF	Referencia	Dimensiones (mm)				Tipo
				l1	l2	l4	d2	
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	●	MPS2000S-DIN	131	79	50	20	A
	3	●	MPS2000S-DIN-C	131	79	50	20	A
	5	●	MPS2000L-DIN	153	101	50	20	A
	5	●	MPS2000L-DIN-C	153	101	50	20	A

● : Stock

★ : Stock en Japón

□ : A fabricar según demanda

CONDICIONES DE CORTE RECOMENDADAS

BROCA MPS/MSL (l/d=3 – 12)

Material	Diámetro Broca Condición Dureza	φ 3.0 – 6.0		φ 6.0 – 10.0		φ 10.0 – 14.0		φ 14.0 – 20.0	
		Velocidad de corte (m/min)	Avance (mm/rev.)	Velocidad de corte (m/min)	Avance (mm/rev.)	Velocidad de corte (m/min)	Avance (mm/rev.)	Velocidad de corte (m/min)	Avance (mm/rev.)
P Acero dulce Acero al carbono Acero aleado	≤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)
	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)	0.30 (0.20–0.40)
	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)	0.30 (0.20–0.40)
M Acero inoxidable	≤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 Fundición Fundición dúctil	Resistencia a la tracción ≤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)
	Resistencia a la tracción ≤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 Aleaciones termo resistentes	–	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)

BROCA MPS/MSL (l/d=3 – 12)

Material	Diámetro Broca Condición Dureza	φ 3.0 – 6.0		φ 6.0 – 10.0		φ 10.0 – 14.0	
		Velocidad de corte (m/min)	Avance (mm/rev.)	Velocidad de corte (m/min)	Avance (mm/rev.)	Velocidad de corte (m/min)	Avance (mm/rev.)
P Acero dulce Acero al carbono Acero aleado	≤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)
	180–280HB	80 (40–95)	0.20 (0.15–0.25)	90 (50–120)	0.25 (0.20–0.35)	90 (60–130)	0.30 (0.15–0.35)
	280–350HB	75 (35–80)	0.15 (0.15–0.20)	80 (45–115)	0.20 (0.15–0.25)	85 (55–115)	0.25 (0.15–0.30)
M Acero inoxidable	≤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 Fundición Fundición dúctil	Resistencia a la tracción ≤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)
	Resistencia a la tracción ≤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 Aleaciones termo resistentes	–	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)

Las condiciones de mecanizado pueden variar bastante, por favor ver la tabla de arriba como referencia de punto de partida y ajustar los valores según las condiciones.