
MPS1

BROCA DE METAL DURO DE ALTO RENDIMIENTO



MPS1

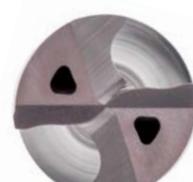
BROCA DE METAL DURO DE ALTO RENDIMIENTO



LxDC 3 - 8

FILO DE CORTE RESISTENTE

Para un taladrado de gran rendimiento



LxDC 10 - 40
LxDC 2 (PC)

GEOMETRÍA OPTIMIZADA

Para un taladrado muy profundo y una calidad óptima del agujero

DP1021

La nueva tecnología de recubrimiento de PVD AlTiCrN garantiza una larga vida útil de la herramienta a velocidades de avance altas y en corte estándar. Adecuada para acero, acero inoxidable y fundición.

PRECISIÓN

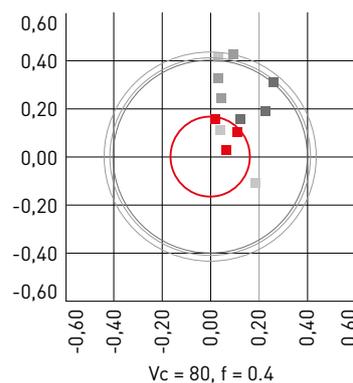
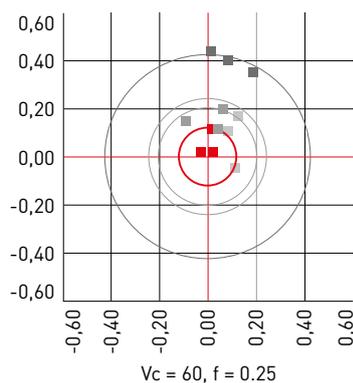
El doble margen y los agujeros de refrigeración con tecnología Tri-Coolant ayudan a obtener unos acabados de las superficies de los agujeros de gran calidad.



- Mayor volumen de refrigerante
- Flujo optimizado en el margen
- Evacuación de virutas más rápido

ESTABILIDAD (ANÁLISIS CAE)

La broca superlarga MPS1 se ha diseñado para alcanzar una resistencia a la flexión un 20 % superior gracias a la optimización del diámetro central y el ángulo de hélice.

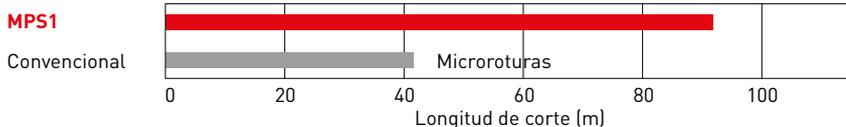


- Herramienta de Mitsubishi Materials
- Convencional A
- Convencional B
- Convencional C

EJEMPLOS DE APLICACIÓN

PRUEBA DE LA VIDA DE LA HERRAMIENTA DE Ø 8MM CON CONDICIONES DE CORTE ESTÁNDAR

Material de trabajo	DIN C50
Prof. agujero (mm)	40
Vc (m/min.)	120
f (mm/rev.)	0.25
Refrigerante	Emulsión
Máquina	M/C vertical
Resultados	La vida útil de la MPS1 resultó 2.5 veces superior.



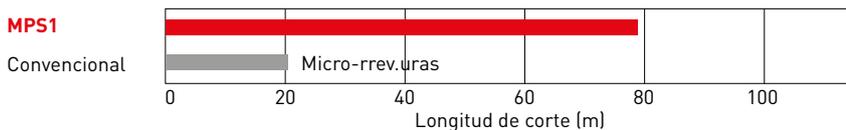
MPS1



Convencional

PRUEBA DE LA VIDA DE LA HERRAMIENTA DE Ø 8MM CON ELEVADAS CONDICIONES DE CORTE

Material de trabajo	DIN C50
Prof. agujero (mm)	40
Vc (m/min.)	200
f (mm/rev.)	0.35
Refrigerante	Emulsión
Máquina	M/C vertical
Resultados	La vida útil de la MPS1 resultó 4 veces superior.



MPS1

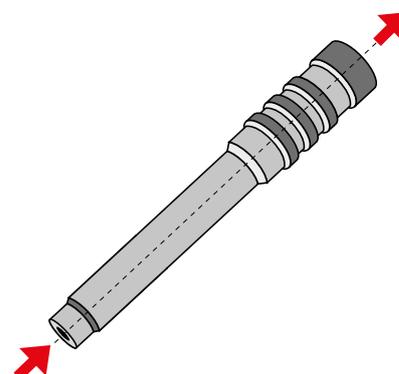
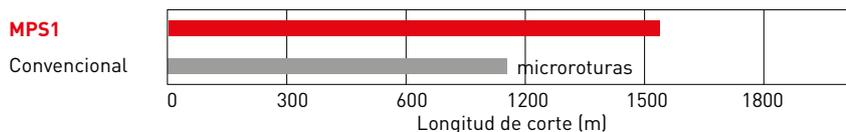


Convencional

BROCAS SUPERLARGAS

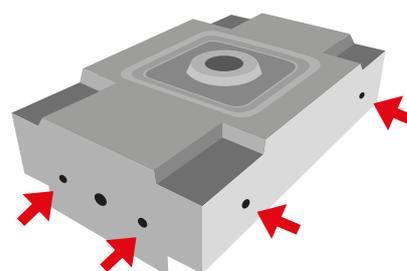
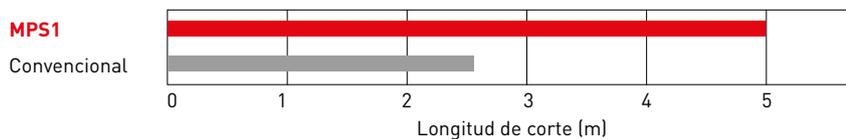
TALADRADO DE AGUJERO PASANTE

Herramienta	MPS1-0380-L12C
Material de trabajo	115MnPb30
Profundidad del agujero (mm)	45 (12 l/d)
Vc (m/min.)	75
f (mm/rev.)	0.135
Máquina	Máquina de decoletaje de cabezal deslizante.
Resultados	La vida útil de la MPS1 resultó un 36 % superior.



TALADRADO DE AGUJEROS DE REFRIGERACIÓN

Herramienta	MPS1-0800-L30C
Material de trabajo	CR7 V-L (acero de trabajo en frío, 1130 N/mm ²)
Profundidad del agujero (mm)	250 (30 l/d)
Vc (m/min.)	120
f (mm/rev.)	0.35
Máquina	Centro de mecanizado horizontal
Resultados	La vida útil de la MPS1 resultó dos veces superior. Rectitud axial del agujero inferior a 0,15 mm.



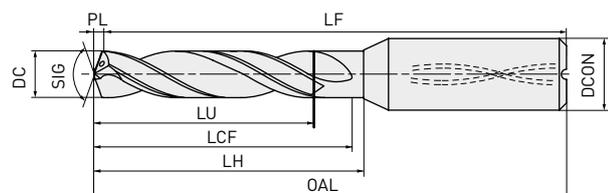
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BROCA DE METAL DURO

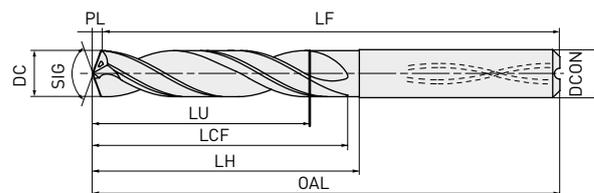


1 Tipo mango cilíndrico con cuello cónico



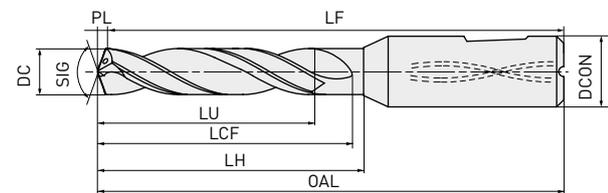
MPS1----S/L-DIN-C/L8C -L40C

2 Tipo mango cilíndrico



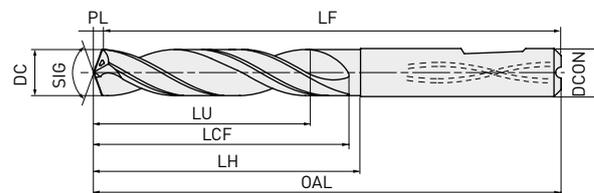
MPS1----S/L-DIN-C/L8C -L40C

3 Mango tipo Whistle notch con cuello cónico.



MPS1----S/L-DIN (Whistle notch)

4 Mango tipo Whistle notch



MPS1----S/L-DIN (Whistle notch)

Los brocas S-DIN (C) , L-DIN(C) y L8 tienen agujeros refrigerantes circulares de hasta 6mm DC.

Las brocas L10 hasta L40 tienen agujeros refrigerantes redondos de hasta 4,9mm DC.

SIG : l/d 3 - 5 y 10 - 40 = 140°, 8 = 135°, PC = 145°



	3<DC≤6	6<DC≤10	10<DC≤18	18<DC≤20
DC Tolerancia (DIN/PC) (mm)	+0.010 -0.002	+0.010 -0.005	+0.005 -0.013	+0.005 -0.016
DC Tolerancia (L_C) (mm)	0 -0.012	0 -0.015	0 -0.018	0 -0.021
DCON Tolerancia (mm)	0 -0.008	0 -0.009	0 -0.011	0 -0.013

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0300S-DIN	3.0	3	61.5	15.0	19.5	24.5	61	0.5	6	□	3
MPS1-0300S-DIN-C		3	61.5	15.0	19.5	24.5	61	0.5	6	●	1
MPS1-0300L-DIN		5	65.5	20.0	24.5	28.5	65	0.5	6	□	3
MPS1-0300L-DIN-C		5	65.5	20.0	24.5	28.5	65	0.5	6	●	1
MPS1-0300-PC		2	55.5	6.5	16.5	19.7	55	0.5	6	●	1
MPS1-0300-L8C		8	76.6	24.6	33.6	39.6	76	0.6	6	●	1
MPS1-0300-L10C		10	79.5	30.5	37.5	42.5	79	0.5	6	●	1
MPS1-0300-L12C		12	85.5	36.5	43.5	48.5	85	0.5	6	●	1
MPS1-0300-L15C		15	94.5	45.5	52.5	57.5	94	0.5	6	●	1
MPS1-0300-L20C		20	109.5	60.5	67.5	72.5	109	0.5	6	●	1
MPS1-0300-L25C		25	124.5	75.5	82.5	87.5	124	0.5	6	●	1
MPS1-0300-L30C		30	139.5	90.5	97.5	102.5	139	0.5	6	●	1
MPS1-0300-L35C		35	158.5	105.5	113.5	121.5	158	0.5	6	□	1
MPS1-0300-L40C		40	173.5	120.5	128.5	136.5	173	0.5	6	●	1

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BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo	
MPS1-0305S-DIN	3.05	3	61.6	15.0	19.6	24.6	61	0.6	6	□	3	
MPS1-0305S-DIN-C		3	61.6	15.0	19.6	24.6	61	0.6	6	●	1	
MPS1-0305L-DIN		5	65.6	20.0	24.6	28.6	65	0.6	6	□	3	
MPS1-0305L-DIN-C		5	65.6	20.0	24.6	28.6	65	0.6	6	●	1	
MPS1-0310S-DIN	3.1	3	61.6	14.9	19.6	24.6	61	0.6	6	□	3	
MPS1-0310S-DIN-C		3	61.6	14.9	19.6	24.6	61	0.6	6	●	1	
MPS1-0310L-DIN		5	65.6	19.9	24.6	28.6	65	0.6	6	□	3	
MPS1-0310L-DIN-C		5	65.6	19.9	24.6	28.6	65	0.6	6	●	1	
MPS1-0310-PC		2	55.5	6.7	18.5	21.6	55	0.5	6	●	1	
MPS1-0310-L8C		8	82.6	25.4	39.6	45.6	82	0.6	6	●	1	
MPS1-0310-L10C		10	86.6	31.6	44.6	49.6	86	0.6	6	□	1	
MPS1-0310-L12C		12	93.6	37.8	51.6	56.6	93	0.6	6	●	1	
MPS1-0310-L15C		15	103.6	47.1	61.6	66.6	103	0.6	6	●	1	
MPS1-0310-L20C		20	121.6	62.6	79.6	84.6	121	0.6	6	●	1	
MPS1-0310-L25C		25	138.6	78.1	96.6	101.6	138	0.6	6	●	1	
MPS1-0310-L30C		30	156.6	93.6	114.6	119.6	156	0.6	6	●	1	
MPS1-0310-L35C		35	175.6	109.1	123.6	138.6	175	0.6	6	□	1	
MPS1-0310-L40C		40	190.6	124.6	138.6	153.6	190	0.6	6	●	1	
MPS1-0320S-DIN		3.2	3	61.6	14.8	19.6	24.6	61	0.6	6	□	3
MPS1-0320S-DIN-C			3	61.6	14.8	19.6	24.6	61	0.6	6	●	1
MPS1-0320L-DIN	5		65.6	19.8	24.6	28.6	65	0.6	6	□	3	
MPS1-0320L-DIN-C	5		65.6	19.8	24.6	28.6	65	0.6	6	●	1	
MPS1-0320-PC	2		55.5	6.9	18.5	21.5	55	0.5	6	●	1	
MPS1-0320-L8C	8		82.7	26.3	39.7	45.7	82	0.7	6	●	1	
MPS1-0320-L10C	10		86.6	32.6	44.6	49.6	86	0.6	6	□	1	
MPS1-0320-L12C	12		93.6	39.0	51.6	56.6	93	0.6	6	●	1	
MPS1-0320-L15C	15		103.6	48.6	61.6	66.6	103	0.6	6	●	1	
MPS1-0320-L20C	20		121.6	64.6	79.6	84.6	121	0.6	6	●	1	
MPS1-0320-L25C	25		138.6	80.6	96.6	101.6	138	0.6	6	●	1	
MPS1-0320-L30C	30		156.6	96.6	114.6	119.6	156	0.6	6	●	1	
MPS1-0320-L35C	35		175.6	112.6	123.6	138.6	175	0.6	6	□	1	
MPS1-0320-L40C	40		190.6	128.6	138.6	153.6	190	0.6	6	●	1	
MPS1-0330S-DIN	3.3		3	61.6	14.7	19.6	24.6	61	0.6	6	□	3
MPS1-0330S-DIN-C			3	61.6	14.7	19.6	24.6	61	0.6	6	●	1
MPS1-0330L-DIN		5	65.6	20.2	25.1	28.6	65	0.6	6	□	3	
MPS1-0330L-DIN-C		5	65.6	20.2	25.1	28.6	65	0.6	6	●	1	
MPS1-0330-PC		2	55.5	7.1	18.5	21.4	55	0.5	6	●	1	
MPS1-0330-L8C		8	82.7	27.1	39.7	45.7	82	0.7	6	●	1	
MPS1-0330-L10C		10	86.6	33.6	44.6	49.6	86	0.6	6	□	1	
MPS1-0330-L12C		12	93.6	40.2	51.6	56.6	93	0.6	6	●	1	
MPS1-0330-L15C		15	103.6	50.1	61.6	66.6	103	0.6	6	●	1	
MPS1-0330-L20C		20	121.6	66.6	79.6	84.6	121	0.6	6	●	1	
MPS1-0330-L25C		25	138.6	83.1	96.6	101.6	138	0.6	6	●	1	
MPS1-0330-L30C		30	156.6	99.6	114.6	119.6	156	0.6	6	●	1	
MPS1-0330-L35C		35	175.6	116.1	132.6	138.6	175	0.6	6	□	1	
MPS1-0330-L40C		40	190.6	132.6	148.6	153.6	190	0.6	6	●	1	

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BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0340S-DIN	3.4	3	61.6	14.5	19.6	24.6	61	0.6	6	□	3
MPS1-0340S-DIN-C		3	61.6	14.5	19.6	24.6	61	0.6	6	●	1
MPS1-0340L-DIN		5	65.6	20.0	25.1	28.6	65	0.6	6	□	3
MPS1-0340L-DIN-C		5	65.6	20.0	25.1	28.6	65	0.6	6	●	1
MPS1-0340-PC		2	55.5	7.3	18.5	21.3	55	0.5	6	●	1
MPS1-0340-L8C		8	82.7	27.9	39.7	45.7	82	0.7	6	●	1
MPS1-0340-L10C		10	86.6	34.6	44.6	49.6	86	0.6	6	□	1
MPS1-0340-L12C		12	93.6	41.4	51.6	56.6	93	0.6	6	●	1
MPS1-0340-L15C		15	103.6	51.6	61.6	66.6	103	0.6	6	●	1
MPS1-0340-L20C		20	121.6	68.6	79.6	84.6	121	0.6	6	●	1
MPS1-0340-L25C		25	138.6	85.6	96.6	101.6	138	0.6	6	●	1
MPS1-0340-L30C		30	156.6	102.6	114.6	119.6	156	0.6	6	●	1
MPS1-0340-L35C		35	175.6	119.6	132.6	138.6	175	0.6	6	□	1
MPS1-0340-L40C		40	190.6	136.6	148.6	153.6	190	0.6	6	●	1
MPS1-0350S-DIN	3.5	3	61.6	14.4	19.6	24.6	61	0.6	6	□	3
MPS1-0350S-DIN-C		3	61.6	14.4	19.6	24.6	61	0.6	6	●	1
MPS1-0350L-DIN		5	65.6	19.9	25.1	28.6	65	0.6	6	□	3
MPS1-0350L-DIN-C		5	65.6	19.9	25.1	28.6	65	0.6	6	●	1
MPS1-0350-PC		2	55.6	7.6	18.6	21.2	55	0.6	6	●	1
MPS1-0350-L8C		8	82.7	28.7	39.7	45.7	82	0.7	6	●	1
MPS1-0350-L10C		10	86.6	35.6	44.6	49.6	86	0.6	6	□	1
MPS1-0350-L12C		12	93.6	42.6	51.6	56.6	93	0.6	6	●	1
MPS1-0350-L15C		15	103.6	53.1	61.6	66.6	103	0.6	6	●	1
MPS1-0350-L20C		20	121.6	70.6	79.6	84.6	121	0.6	6	●	1
MPS1-0350-L25C		25	138.6	88.1	96.6	101.6	138	0.6	6	●	1
MPS1-0350-L30C		30	156.6	105.6	114.6	119.6	156	0.6	6	●	1
MPS1-0350-L35C		35	175.6	123.1	132.6	138.6	175	0.6	6	□	1
MPS1-0350-L40C		40	190.6	140.6	148.6	153.6	190	0.6	6	●	1
MPS1-0360S-DIN	3.6	3	61.7	14.3	19.7	24.7	61	0.7	6	□	3
MPS1-0360S-DIN-C		3	61.7	14.3	19.7	24.7	61	0.7	6	●	1
MPS1-0360L-DIN		5	65.7	19.8	25.2	28.7	65	0.7	6	□	3
MPS1-0360L-DIN-C		5	65.7	19.8	25.2	28.7	65	0.7	6	●	1
MPS1-0360-PC		2	55.6	7.8	20.6	23.1	55	0.6	6	□	1
MPS1-0360-L8C		8	87.7	29.5	44.7	50.7	87	0.7	6	●	1
MPS1-0360-L10C		10	92.7	36.7	50.7	55.7	92	0.7	6	□	1
MPS1-0360-L12C		12	100.7	43.9	58.7	63.7	100	0.7	6	●	1
MPS1-0360-L15C		15	112.7	54.7	70.7	75.7	112	0.7	6	●	1
MPS1-0360-L20C		20	132.7	72.7	90.7	95.7	132	0.7	6	●	1
MPS1-0360-L25C		25	152.7	90.7	110.7	115.7	152	0.7	6	□	1
MPS1-0360-L30C		30	172.7	108.7	130.7	135.7	172	0.7	6	●	1
MPS1-0360-L35C		35	192.7	126.7	143.7	155.7	192	0.7	6	□	1
MPS1-0360-L40C		40	212.7	144.7	160.7	175.7	212	0.7	6	●	1

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BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo	
MPS1-0370S-DIN	3.7	3	61.7	14.1	19.7	24.7	61	0.7	6	□	3	
MPS1-0370S-DIN-C		3	61.7	14.1	19.7	24.7	61	0.7	6	●	1	
MPS1-0370L-DIN		5	65.7	20.1	25.7	28.7	65	0.7	6	□	3	
MPS1-0370L-DIN-C		5	65.7	20.1	25.7	28.7	65	0.7	6	●	1	
MPS1-0370-PC		2	55.6	8.0	20.6	23.1	55	0.6	6	●	1	
MPS1-0370-L8C		8	87.8	30.4	44.8	50.8	87	0.8	6	●	1	
MPS1-0370-L10C		10	92.7	37.7	50.7	55.7	92	0.7	6	□	1	
MPS1-0370-L12C		12	100.7	45.1	58.7	63.7	100	0.7	6	●	1	
MPS1-0370-L15C		15	112.7	56.2	70.7	75.7	112	0.7	6	●	1	
MPS1-0370-L20C		20	132.7	74.7	90.7	95.7	132	0.7	6	●	1	
MPS1-0370-L25C		25	152.7	93.2	110.7	115.7	152	0.7	6	●	1	
MPS1-0370-L30C		30	172.7	111.7	130.7	135.7	172	0.7	6	●	1	
MPS1-0370-L35C		35	192.7	130.2	143.7	155.7	192	0.7	6	□	1	
MPS1-0370-L40C		40	212.7	148.7	160.7	175.7	212	0.7	6	●	1	
MPS1-0380S-DIN		3.8	3	65.7	18.0	23.7	28.7	65	0.7	6	□	3
MPS1-0380S-DIN-C			3	65.7	18.0	23.7	28.7	65	0.7	6	●	1
MPS1-0380L-DIN	5		73.7	28.0	33.7	36.7	73	0.7	6	□	3	
MPS1-0380L-DIN-C	5		73.7	28.0	33.7	36.7	73	0.7	6	●	1	
MPS1-0380-PC	2		55.6	8.2	20.6	23.0	55	0.6	6	●	1	
MPS1-0380-L8C	8		87.8	31.2	44.8	50.8	87	0.8	6	●	1	
MPS1-0380-L10C	10		92.7	38.7	50.7	55.7	92	0.7	6	□	1	
MPS1-0380-L12C	12		100.7	46.3	58.7	63.7	100	0.7	6	●	1	
MPS1-0380-L15C	15		112.7	57.7	70.7	75.7	112	0.7	6	●	1	
MPS1-0380-L20C	20		132.7	76.7	90.7	95.7	132	0.7	6	●	1	
MPS1-0380-L25C	25		152.7	95.7	110.7	115.7	152	0.7	6	●	1	
MPS1-0380-L30C	30		172.7	114.7	130.7	135.7	172	0.7	6	●	1	
MPS1-0380-L35C	35		192.7	133.7	150.7	155.7	192	0.7	6	□	1	
MPS1-0380-L40C	40		212.7	152.7	170.7	175.7	212	0.7	6	●	1	
MPS1-0390S-DIN	3.9		3	65.7	17.9	23.7	28.7	65	0.7	6	□	3
MPS1-0390S-DIN-C			3	65.7	17.9	23.7	28.7	65	0.7	6	●	1
MPS1-0390L-DIN		5	73.7	27.9	33.7	36.7	73	0.7	6	□	3	
MPS1-0390L-DIN-C		5	73.7	27.9	33.7	36.7	73	0.7	6	●	1	
MPS1-0390-PC		2	55.6	8.4	20.6	22.9	55	0.6	6	●	1	
MPS1-0390-L8C		8	87.8	32.0	44.8	50.8	87	0.8	6	●	1	
MPS1-0390-L10C		10	92.7	39.7	50.7	55.7	92	0.7	6	□	1	
MPS1-0390-L12C		12	100.7	47.5	58.7	63.7	100	0.7	6	●	1	
MPS1-0390-L15C		15	112.7	59.2	70.7	75.7	112	0.7	6	●	1	
MPS1-0390-L20C		20	132.7	78.7	90.7	95.7	132	0.7	6	●	1	
MPS1-0390-L25C		25	152.7	98.2	110.7	115.7	152	0.7	6	□	1	
MPS1-0390-L30C		30	172.7	117.7	130.7	135.7	172	0.7	6	●	1	
MPS1-0390-L35C		35	192.7	137.2	150.7	155.7	192	0.7	6	□	1	
MPS1-0390-L40C		40	212.7	156.7	170.7	175.7	212	0.7	6	●	1	

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0400S-DIN	4.0	3	65.7	17.7	23.7	28.7	65	0.7	6	□	3
MPS1-0400S-DIN-C		3	65.7	17.7	23.7	28.7	65	0.7	6	●	1
MPS1-0400L-DIN		5	73.7	27.7	33.7	36.7	73	0.7	6	□	3
MPS1-0400L-DIN-C		5	73.7	27.7	33.7	36.7	73	0.7	6	●	1
MPS1-0400-PC		2	55.6	8.6	20.6	22.8	55	0.6	6	●	1
MPS1-0400-L8C		8	87.8	32.8	44.8	50.8	87	0.8	6	●	1
MPS1-0400-L10C		10	92.7	40.7	50.7	55.7	92	0.7	6	●	1
MPS1-0400-L12C		12	100.7	48.7	58.7	63.7	100	0.7	6	●	1
MPS1-0400-L15C		15	112.7	60.7	70.7	75.7	112	0.7	6	●	1
MPS1-0400-L20C		20	132.7	80.7	90.7	95.7	132	0.7	6	●	1
MPS1-0400-L25C		25	152.7	100.7	110.7	115.7	152	0.7	6	●	1
MPS1-0400-L30C		30	172.7	120.7	130.7	135.7	172	0.7	6	●	1
MPS1-0400-L35C		35	192.7	140.7	150.7	155.7	192	0.7	6	□	1
MPS1-0400-L40C		40	212.7	160.7	170.7	175.7	212	0.7	6	●	1
MPS1-0405S-DIN	4.05	3	65.7	17.7	23.7	28.7	65	0.7	6	□	3
MPS1-0405S-DIN-C		3	65.7	17.7	23.7	28.7	65	0.7	6	●	1
MPS1-0405L-DIN		5	73.7	27.7	33.7	36.7	73	0.7	6	□	3
MPS1-0405L-DIN-C		5	73.7	27.7	33.7	36.7	73	0.7	6	●	1
MPS1-0410S-DIN	4.1	3	65.7	17.6	23.7	28.7	65	0.7	6	□	3
MPS1-0410S-DIN-C		3	65.7	17.6	23.7	28.7	65	0.7	6	●	1
MPS1-0410L-DIN		5	73.7	27.6	33.7	36.7	73	0.7	6	□	3
MPS1-0410L-DIN-C		5	73.7	27.6	33.7	36.7	73	0.7	6	●	1
MPS1-0410-PC		2	62.6	8.8	22.6	24.7	62	0.6	6	●	1
MPS1-0410-L8C		8	92.8	33.6	50.8	55.8	92	0.8	6	●	1
MPS1-0410-L10C		10	99.7	41.7	58.7	62.7	99	0.7	6	□	1
MPS1-0410-L12C		12	108.7	49.9	67.7	71.7	108	0.7	6	●	1
MPS1-0410-L15C		15	121.7	62.2	80.7	84.7	121	0.7	6	●	1
MPS1-0410-L20C		20	144.7	82.7	103.7	107.7	144	0.7	6	●	1
MPS1-0410-L25C		25	166.7	103.2	125.7	129.7	166	0.7	6	●	1
MPS1-0410-L30C		30	189.7	123.7	148.7	152.7	189	0.7	6	●	1
MPS1-0410-L35C		35	211.7	144.2	164.7	174.7	211	0.7	6	□	1
MPS1-0410-L40C		40	235.7	164.7	184.7	198.7	235	0.7	6	●	1
MPS1-0420S-DIN	4.2	3	65.8	17.5	23.8	28.8	65	0.8	6	□	3
MPS1-0420S-DIN-C		3	65.8	17.5	23.8	28.8	65	0.8	6	●	1
MPS1-0420L-DIN		5	73.8	28.0	34.3	36.8	73	0.8	6	□	3
MPS1-0420L-DIN-C		5	73.8	28.0	34.3	36.8	73	0.8	6	●	1
MPS1-0420-PC		2	62.7	9.1	22.7	24.6	62	0.7	6	●	1
MPS1-0420-L8C		8	92.9	34.5	50.9	55.9	92	0.9	6	●	1
MPS1-0420-L10C		10	99.8	42.8	58.8	62.8	99	0.8	6	□	1
MPS1-0420-L12C		12	108.8	51.2	67.8	71.8	108	0.8	6	●	1
MPS1-0420-L15C		15	121.8	63.8	80.8	84.8	121	0.8	6	●	1
MPS1-0420-L20C		20	144.8	84.8	103.8	107.8	144	0.8	6	●	1
MPS1-0420-L25C		25	166.8	105.8	125.8	129.8	166	0.8	6	●	1
MPS1-0420-L30C		30	189.8	126.8	148.8	152.8	189	0.8	6	●	1
MPS1-0420-L35C		35	211.8	147.8	164.8	174.8	211	0.8	6	●	1
MPS1-0420-L40C		40	235.8	168.8	184.8	198.8	235	0.8	6	●	1

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0430S-DIN		3	65.8	17.3	23.8	28.8	65	0.8	6	□	3
MPS1-0430S-DIN-C		3	65.8	17.3	23.8	28.8	65	0.8	6	●	1
MPS1-0430L-DIN		5	73.8	27.8	34.3	36.8	73	0.8	6	□	3
MPS1-0430L-DIN-C		5	73.8	27.8	34.3	36.8	73	0.8	6	●	1
MPS1-0430-PC		2	62.7	9.3	22.7	24.5	62	0.7	6	●	1
MPS1-0430-L8C		8	92.9	35.3	50.9	55.9	92	0.9	6	●	1
MPS1-0430-L10C	4.3	10	99.8	43.8	58.8	62.8	99	0.8	6	□	1
MPS1-0430-L12C		12	108.8	52.4	67.8	71.8	108	0.8	6	●	1
MPS1-0430-L15C		15	121.8	65.3	80.8	84.8	121	0.8	6	●	1
MPS1-0430-L20C		20	144.8	86.8	103.8	107.8	144	0.8	6	●	1
MPS1-0430-L25C		25	166.8	108.3	125.8	129.8	166	0.8	6	●	1
MPS1-0430-L30C		30	189.8	129.8	148.8	152.8	189	0.8	6	●	1
MPS1-0430-L35C		35	211.8	151.3	170.8	174.8	211	0.8	6	□	1
MPS1-0430-L40C		40	235.8	172.8	194.8	198.8	235	0.8	6	●	1
MPS1-0440S-DIN		3	65.8	17.2	23.8	28.8	65	0.8	6	□	3
MPS1-0440S-DIN-C		3	65.8	17.2	23.8	28.8	65	0.8	6	●	1
MPS1-0440L-DIN		5	73.8	27.7	34.3	36.8	73	0.8	6	□	3
MPS1-0440L-DIN-C		5	73.8	27.7	34.3	36.8	73	0.8	6	●	1
MPS1-0440-PC		2	62.7	9.5	22.7	24.4	62	0.7	6	●	1
MPS1-0440-L8C		8	92.9	36.1	50.9	55.9	92	0.9	6	●	1
MPS1-0440-L10C	4.4	10	99.8	44.8	58.8	62.8	99	0.8	6	□	1
MPS1-0440-L12C		12	108.8	53.6	67.8	71.8	108	0.8	6	●	1
MPS1-0440-L15C		15	121.8	66.8	80.8	84.8	121	0.8	6	●	1
MPS1-0440-L20C		20	144.8	88.8	103.8	107.8	144	0.8	6	□	1
MPS1-0440-L25C		25	166.8	110.8	125.8	129.8	166	0.8	6	□	1
MPS1-0440-L30C		30	189.8	132.8	148.8	152.8	189	0.8	6	□	1
MPS1-0440-L35C		35	211.8	154.8	170.8	174.8	211	0.8	6	□	1
MPS1-0440-L40C		40	235.8	176.8	194.8	198.8	235	0.8	6	●	1
MPS1-0450S-DIN		3	65.8	17.1	23.8	28.8	65	0.8	6	□	3
MPS1-0450S-DIN-C		3	65.8	17.1	23.8	28.8	65	0.8	6	●	1
MPS1-0450L-DIN		5	73.8	27.6	34.3	36.8	73	0.8	6	□	3
MPS1-0450L-DIN-C		5	73.8	27.6	34.3	36.8	73	0.8	6	●	1
MPS1-0450-PC		2	62.7	9.7	22.7	24.3	62	0.7	6	●	1
MPS1-0450-L8C		8	92.9	36.9	50.9	55.9	92	0.9	6	●	1
MPS1-0450-L10C	4.5	10	99.8	45.8	58.8	62.8	99	0.8	6	□	1
MPS1-0450-L12C		12	108.8	54.8	67.8	71.8	108	0.8	6	●	1
MPS1-0450-L15C		15	121.8	68.3	80.8	84.8	121	0.8	6	●	1
MPS1-0450-L20C		20	144.8	90.8	103.8	107.8	144	0.8	6	●	1
MPS1-0450-L25C		25	166.8	113.3	125.8	129.8	166	0.8	6	●	1
MPS1-0450-L30C		30	189.8	135.8	148.8	152.8	189	0.8	6	●	1
MPS1-0450-L35C		35	211.8	158.3	170.8	174.8	211	0.8	6	□	1
MPS1-0450-L40C		40	235.8	180.8	194.8	198.8	235	0.8	6	●	1

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0460S-DIN	4.6	3	65.8	16.9	23.8	28.8	65	0.8	6	□	4
MPS1-0460S-DIN-C		3	65.8	16.9	23.8	28.8	65	0.8	6	●	2
MPS1-0460L-DIN		5	73.8	28.9	35.8	36.8	73	0.8	6	□	4
MPS1-0460L-DIN-C		5	73.8	28.9	35.8	36.8	73	0.8	6	●	2
MPS1-0460-PC		2	62.7	9.9	24.7	27.7	62	0.7	6	●	2
MPS1-0460-L8C		8	96.0	37.8	56.0	59.0	95	1.0	6	●	2
MPS1-0460-L10C		10	105.8	46.8	65.8	68.8	105	0.8	6	□	2
MPS1-0460-L12C		12	115.8	56.0	75.8	78.8	115	0.8	6	●	2
MPS1-0460-L15C		15	130.8	69.8	90.8	93.8	130	0.8	6	●	2
MPS1-0460-L20C		20	155.8	92.8	115.8	118.8	155	0.8	6	●	2
MPS1-0460-L25C		25	180.8	115.8	140.8	143.8	180	0.8	6	●	2
MPS1-0460-L30C		30	205.8	138.8	165.8	168.8	205	0.8	6	●	2
MPS1-0460-L35C		35	229.8	161.8	184.8	192.8	229	0.8	6	□	2
MPS1-0460-L40C		40	254.8	184.8	204.8	217.8	254	0.8	6	●	2
MPS1-0465S-DIN	4.65	3	65.8	16.9	23.8	28.8	65	0.8	6	□	4
MPS1-0465S-DIN-C		3	65.8	16.9	23.8	28.8	65	0.8	6	●	2
MPS1-0465L-DIN		5	73.8	28.9	35.8	36.8	73	0.8	6	□	4
MPS1-0465L-DIN-C		5	73.8	28.9	35.8	36.8	73	0.8	6	●	2
MPS1-0470S-DIN	4.7	3	65.9	16.8	23.9	28.9	65	0.9	6	□	4
MPS1-0470S-DIN-C		3	65.9	16.8	23.9	28.9	65	0.9	6	●	2
MPS1-0470L-DIN		5	73.9	28.8	35.9	36.9	73	0.9	6	□	4
MPS1-0470L-DIN-C		5	73.9	28.8	35.9	36.9	73	0.9	6	●	2
MPS1-0470-PC		2	62.7	10.1	24.7	27.7	62	0.7	6	●	2
MPS1-0470-L8C		8	96.0	38.6	56.0	59.0	95	1.0	6	●	2
MPS1-0470-L10C		10	105.9	47.9	65.9	68.9	105	0.9	6	□	2
MPS1-0470-L12C		12	115.9	57.3	75.9	78.9	115	0.9	6	●	2
MPS1-0470-L15C		15	130.9	71.4	90.9	93.9	130	0.9	6	●	2
MPS1-0470-L20C		20	155.9	94.9	115.9	118.9	155	0.9	6	●	2
MPS1-0470-L25C		25	180.9	118.4	140.9	143.9	180	0.9	6	●	2
MPS1-0470-L30C		30	205.9	141.9	165.9	168.9	205	0.9	6	●	2
MPS1-0470-L35C		35	229.9	165.4	184.9	192.9	229	0.9	6	□	2
MPS1-0470-L40C		40	254.9	188.9	204.9	217.9	254	0.9	6	●	2
MPS1-0480S-DIN	4.8	3	65.9	20.7	27.9	28.9	65	0.9	6	□	4
MPS1-0480S-DIN-C		3	65.9	20.7	27.9	28.9	65	0.9	6	●	2
MPS1-0480L-DIN		5	81.9	36.7	43.9	44.9	81	0.9	6	□	4
MPS1-0480L-DIN-C		5	81.9	36.7	43.9	44.9	81	0.9	6	●	2
MPS1-0480-PC		2	62.8	10.4	24.8	27.8	62	0.8	6	●	2
MPS1-0480-L8C		8	96.0	39.4	56.0	59.0	95	1.0	6	●	2
MPS1-0480-L10C		10	105.9	48.9	65.9	68.9	105	0.9	6	□	2
MPS1-0480-L12C		12	115.9	58.5	75.9	78.9	115	0.9	6	●	2
MPS1-0480-L15C		15	130.9	72.9	90.9	93.9	130	0.9	6	●	2
MPS1-0480-L20C		20	155.9	96.9	115.9	118.9	155	0.9	6	●	2
MPS1-0480-L25C		25	180.9	120.9	140.9	143.9	180	0.9	6	●	2
MPS1-0480-L30C		30	205.9	144.9	165.9	168.9	205	0.9	6	●	2
MPS1-0480-L35C		35	229.9	168.9	190.9	192.9	229	0.9	6	□	2
MPS1-0480-L40C		40	254.9	192.9	215.9	217.9	254	0.9	6	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo	
MPS1-0490S-DIN	4.9	3	65.9	20.5	27.9	28.9	65	0.9	6	□	4	
MPS1-0490S-DIN-C		3	65.9	20.5	27.9	28.9	65	0.9	6	●	2	
MPS1-0490L-DIN		5	81.9	36.5	43.9	44.9	81	0.9	6	□	4	
MPS1-0490L-DIN-C		5	81.9	36.5	43.9	44.9	81	0.9	6	●	2	
MPS1-0490-PC		2	62.8	10.6	24.8	27.8	62	0.8	6	●	2	
MPS1-0490-L8C		8	96.0	40.2	56.0	59.0	95	1.0	6	●	2	
MPS1-0490-L10C		10	105.9	49.9	65.9	68.9	105	0.9	6	□	2	
MPS1-0490-L12C		12	115.9	59.7	75.9	78.9	115	0.9	6	●	2	
MPS1-0490-L15C		15	130.9	74.4	90.9	93.9	130	0.9	6	●	2	
MPS1-0490-L20C		20	155.9	98.9	115.9	118.9	155	0.9	6	●	2	
MPS1-0490-L25C		25	180.9	123.4	140.9	143.9	180	0.9	6	●	2	
MPS1-0490-L30C		30	205.9	147.9	165.9	168.9	205	0.9	6	●	2	
MPS1-0490-L35C		35	229.9	172.4	190.9	192.9	229	0.9	6	□	2	
MPS1-0490-L40C		40	254.9	196.9	215.9	217.9	254	0.9	6	●	2	
MPS1-0500S-DIN	5.0	3	65.9	20.4	27.9	28.9	65	0.9	6	□	4	
MPS1-0500S-DIN-C		3	65.9	20.4	27.9	28.9	65	0.9	6	●	2	
MPS1-0500L-DIN		5	81.9	36.4	43.9	44.9	81	0.9	6	□	4	
MPS1-0500L-DIN-C		5	81.9	36.4	43.9	44.9	81	0.9	6	●	2	
MPS1-0500-PC		2	62.8	10.8	24.8	25.8	62	0.8	6	●	2	
MPS1-0500-L8C		8	96.0	41.0	56.0	59.0	95	1.0	6	●	2	
MPS1-0500-L10C		10	105.9	50.9	65.9	68.9	105	0.9	6	●	2	
MPS1-0500-L12C		12	115.9	60.9	75.9	78.9	115	0.9	6	●	2	
MPS1-0500-L15C		15	130.9	75.9	90.9	93.9	130	0.9	6	●	2	
MPS1-0500-L20C		20	155.9	100.9	115.9	118.9	155	0.9	6	●	2	
MPS1-0500-L25C		25	180.9	125.9	140.9	143.9	180	0.9	6	●	2	
MPS1-0500-L30C		30	205.9	150.9	165.9	168.9	205	0.9	6	●	2	
MPS1-0500-L35C		35	229.9	175.9	190.9	192.9	229	0.9	6	□	2	
MPS1-0500-L40C		40	254.9	200.9	215.9	217.9	254	0.9	6	●	2	
MPS1-0505S-DIN	5.05	3	65.9	20.3	27.9	28.9	65	0.9	6	□	4	
MPS1-0505S-DIN-C		3	65.9	20.3	27.9	28.9	65	0.9	6	●	2	
MPS1-0505L-DIN		5	81.9	36.3	43.9	44.9	81	0.9	6	□	4	
MPS1-0505L-DIN-C		5	81.9	36.3	43.9	44.9	81	0.9	6	●	2	
MPS1-0510S-DIN		5.1	3	65.9	20.3	27.9	28.9	65	0.9	6	□	4
MPS1-0510S-DIN-C			3	65.9	20.3	27.9	28.9	65	0.9	6	●	2
MPS1-0510L-DIN			5	81.9	36.3	43.9	44.9	81	0.9	6	□	4
MPS1-0510L-DIN-C			5	81.9	36.3	43.9	44.9	81	0.9	6	●	2
MPS1-0510-PC			2	66.8	11.0	26.8	28.8	66	0.8	6	●	2
MPS1-0510-L8C			8	102.1	41.9	62.1	65.1	101	1.1	6	●	2
MPS1-0510-L10C			10	112.9	51.9	72.9	75.9	112	0.9	6	□	2
MPS1-0510-L12C			12	123.9	62.1	83.9	86.9	123	0.9	6	●	2
MPS1-0510-L15C			15	139.9	77.4	99.9	102.9	139	0.9	6	●	2
MPS1-0510-L20C			20	167.9	102.9	127.9	130.9	167	0.9	6	●	2
MPS1-0510-L25C	25		194.9	128.4	154.9	157.9	194	0.9	6	●	2	
MPS1-0510-L30C	30		222.9	153.9	182.9	185.9	222	0.9	6	●	2	
MPS1-0510-L35C	35		248.9	179.4	203.9	211.9	248	0.9	6	□	2	
MPS1-0510-L40C	40		278.9	204.9	230.9	241.9	278	0.9	6	●	2	

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0520S-DIN	5.2	3	65.9	20.1	27.9	28.9	65	0.9	6	□	4
MPS1-0520S-DIN-C		3	65.9	20.1	27.9	28.9	65	0.9	6	●	2
MPS1-0520L-DIN		5	81.9	36.1	43.9	44.9	81	0.9	6	□	4
MPS1-0520L-DIN-C		5	81.9	36.1	43.9	44.9	81	0.9	6	●	2
MPS1-0520-PC		2	66.8	11.2	26.8	28.8	66	0.8	6	●	2
MPS1-0520-L8C		8	102.1	42.7	62.1	65.1	101	1.1	6	●	2
MPS1-0520-L10C		10	112.9	52.9	72.9	75.9	112	0.9	6	□	2
MPS1-0520-L12C		12	123.9	63.3	83.9	86.9	123	0.9	6	●	2
MPS1-0520-L15C		15	139.9	78.9	99.9	102.9	139	0.9	6	●	2
MPS1-0520-L20C		20	167.9	104.9	127.9	130.9	167	0.9	6	●	2
MPS1-0520-L25C		25	194.9	130.9	154.9	157.9	194	0.9	6	●	2
MPS1-0520-L30C		30	222.9	156.9	182.9	185.9	222	0.9	6	●	2
MPS1-0520-L35C		35	248.9	182.9	203.9	211.9	248	0.9	6	□	2
MPS1-0520-L40C		40	278.9	208.9	230.9	241.9	278	0.9	6	●	2
MPS1-0530S-DIN	5.3	3	66.0	20.0	28.0	29.0	65	1.0	6	□	4
MPS1-0530S-DIN-C		3	66.0	20.0	28.0	29.0	65	1.0	6	●	2
MPS1-0530L-DIN		5	82.0	36.0	44.0	45.0	81	1.0	6	□	4
MPS1-0530L-DIN-C		5	82.0	36.0	44.0	45.0	81	1.0	6	●	2
MPS1-0530-PC		2	66.8	11.4	26.8	28.8	66	0.8	6	●	2
MPS1-0530-L8C		8	102.1	43.5	62.1	65.1	101	1.1	6	●	2
MPS1-0530-L10C		10	113.0	54.0	73.0	76.0	112	1.0	6	□	2
MPS1-0530-L12C		12	124.0	64.6	84.0	87.0	123	1.0	6	●	2
MPS1-0530-L15C		15	140.0	80.5	100.0	103.0	139	1.0	6	●	2
MPS1-0530-L20C		20	168.0	107.0	128.0	131.0	167	1.0	6	□	2
MPS1-0530-L25C		25	195.0	133.5	155.0	158.0	194	1.0	6	●	2
MPS1-0530-L30C		30	223.0	160.0	183.0	186.0	222	1.0	6	●	2
MPS1-0530-L35C		35	249.0	186.5	210.0	212.0	248	1.0	6	□	2
MPS1-0530-L40C		40	279.0	213.0	241.0	242.0	278	1.0	6	●	2
MPS1-0540S-DIN	5.4	3	66.0	19.9	28.0	29.0	65	1.0	6	□	2
MPS1-0540S-DIN-C		3	66.0	19.9	28.0	29.0	65	1.0	6	●	4
MPS1-0540L-DIN		5	82.0	35.9	44.0	45.0	81	1.0	6	□	4
MPS1-0540L-DIN-C		5	82.0	35.9	44.0	45.0	81	1.0	6	●	2
MPS1-0540-PC		2	66.9	11.7	26.9	28.9	66	0.9	6	●	2
MPS1-0540-L8C		8	102.1	44.3	62.1	65.1	101	1.1	6	●	2
MPS1-0540-L10C		10	113.0	55.0	73.0	76.0	112	1.0	6	□	2
MPS1-0540-L12C		12	124.0	65.8	84.0	87.0	123	1.0	6	●	2
MPS1-0540-L15C		15	140.0	82.0	100.0	103.0	139	1.0	6	●	2
MPS1-0540-L20C		20	168.0	109.0	128.0	131.0	167	1.0	6	□	2
MPS1-0540-L25C		25	195.0	136.0	155.0	158.0	194	1.0	6	□	2
MPS1-0540-L30C		30	223.0	163.0	183.0	186.0	222	1.0	6	□	2
MPS1-0540-L35C		35	249.0	190.0	210.0	212.0	248	1.0	6	□	2
MPS1-0540-L40C		40	279.0	217.0	241.0	242.0	278	1.0	6	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0550S-DIN	5.5	3	66.0	19.8	28.0	29.0	65	1.0	6	□	4
MPS1-0550S-DIN-C		3	66.0	19.8	28.0	29.0	65	1.0	6	●	2
MPS1-0550L-DIN		5	82.0	35.8	44.0	45.0	81	1.0	6	□	4
MPS1-0550L-DIN-C		5	82.0	35.8	44.0	45.0	81	1.0	6	●	2
MPS1-0550-PC		2	66.9	11.9	26.9	28.9	66	0.9	6	●	2
MPS1-0550-L8C		8	102.1	45.1	62.1	65.1	101	1.1	6	●	2
MPS1-0550-L10C		10	113.0	56.0	73.0	76.0	112	1.0	6	□	2
MPS1-0550-L12C		12	124.0	67.0	84.0	87.0	123	1.0	6	●	2
MPS1-0550-L15C		15	140.0	83.5	100.0	103.0	139	1.0	6	●	2
MPS1-0550-L20C		20	168.0	111.0	128.0	131.0	167	1.0	6	●	2
MPS1-0550-L25C		25	195.0	138.5	155.0	158.0	194	1.0	6	●	2
MPS1-0550-L30C		30	223.0	166.0	183.0	186.0	222	1.0	6	●	2
MPS1-0550-L35C		35	249.0	193.5	210.0	212.0	248	1.0	6	□	2
MPS1-0550-L40C		40	279.0	221.0	241.0	242.0	278	1.0	6	●	2
MPS1-0555S-DIN	5.55	3	66.0	19.7	28.0	29.0	65	1.0	6	□	4
MPS1-0555S-DIN-C		3	66.0	19.7	28.0	29.0	65	1.0	6	●	2
MPS1-0555L-DIN		5	82.0	35.7	44.0	45.0	81	1.0	6	□	4
MPS1-0555L-DIN-C		5	82.0	35.7	44.0	45.0	81	1.0	6	●	2
MPS1-0560S-DIN	5.6	3	66.0	19.6	28.0	29.0	65	1.0	6	□	4
MPS1-0560S-DIN-C		3	66.0	19.6	28.0	29.0	65	1.0	6	●	2
MPS1-0560L-DIN		5	82.0	35.6	44.0	45.0	81	1.0	6	□	4
MPS1-0560L-DIN-C		5	82.0	35.6	44.0	45.0	81	1.0	6	●	2
MPS1-0560-PC		2	66.9	12.1	28.9	28.9	66	0.9	6	●	2
MPS1-0560-L8C		8	107.2	46.0	67.2	70.2	106	1.2	6	●	2
MPS1-0560-L10C		10	119.0	57.0	79.0	82.0	118	1.0	6	□	2
MPS1-0560-L12C		12	131.0	68.2	91.0	94.0	130	1.0	6	●	2
MPS1-0560-L15C		15	149.0	85.0	109.0	112.0	148	1.0	6	●	2
MPS1-0560-L20C		20	179.0	113.0	139.0	142.0	178	1.0	6	□	2
MPS1-0560-L25C		25	209.0	141.0	169.0	172.0	208	1.0	6	□	2
MPS1-0560-L30C		30	239.0	169.0	199.0	202.0	238	1.0	6	●	2
MPS1-0560-L35C		35	268.0	197.0	223.0	231.0	267	1.0	6	□	2
MPS1-0560-L40C		40	299.0	225.0	251.0	262.0	298	1.0	6	●	2
MPS1-0570S-DIN	5.7	3	66.0	19.5	28.0	29.0	65	1.0	6	□	4
MPS1-0570S-DIN-C		3	66.0	19.5	28.0	29.0	65	1.0	6	●	2
MPS1-0570L-DIN		5	82.0	35.5	44.0	45.0	81	1.0	6	□	4
MPS1-0570L-DIN-C		5	82.0	35.5	44.0	45.0	81	1.0	6	●	2
MPS1-0570-PC		2	66.9	12.3	28.9	28.9	66	0.9	6	●	2
MPS1-0570-L8C		8	107.2	46.8	67.2	70.2	106	1.2	6	●	2
MPS1-0570-L10C		10	119.0	58.0	79.0	82.0	118	1.0	6	□	2
MPS1-0570-L12C		12	131.0	69.4	91.0	94.0	130	1.0	6	●	2
MPS1-0570-L15C		15	149.0	86.5	109.0	112.0	148	1.0	6	●	2
MPS1-0570-L20C		20	179.0	115.0	139.0	142.0	178	1.0	6	□	2
MPS1-0570-L25C		25	209.0	143.5	169.0	172.0	208	1.0	6	●	2
MPS1-0570-L30C		30	239.0	172.0	199.0	202.0	238	1.0	6	□	2
MPS1-0570-L35C		35	268.0	200.5	223.0	231.0	267	1.0	6	□	2
MPS1-0570-L40C		40	299.0	229.0	251.0	262.0	298	1.0	6	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0580S-DIN	5.8	3	66.1	19.4	28.1	29.1	65	1.1	6	□	4
MPS1-0580S-DIN-C		3	66.1	19.4	28.1	29.1	65	1.1	6	●	2
MPS1-0580L-DIN		5	82.1	35.4	44.1	45.1	81	1.1	6	□	4
MPS1-0580L-DIN-C		5	82.1	35.4	44.1	45.1	81	1.1	6	●	2
MPS1-0580-PC		2	66.9	12.5	28.9	28.9	66	0.9	6	●	2
MPS1-0580-L8C		8	107.2	47.6	67.2	70.2	106	1.2	6	●	2
MPS1-0580-L10C		10	119.1	59.1	79.1	82.1	118	1.1	6	□	2
MPS1-0580-L12C		12	131.1	70.7	91.1	94.1	130	1.1	6	●	2
MPS1-0580-L15C		15	149.1	88.1	109.1	112.1	148	1.1	6	●	2
MPS1-0580-L20C		20	179.1	117.1	139.1	142.1	178	1.1	6	●	2
MPS1-0580-L25C		25	209.1	146.1	169.1	172.1	208	1.1	6	□	2
MPS1-0580-L30C		30	239.1	175.1	199.1	202.1	238	1.1	6	●	2
MPS1-0580-L35C		35	268.1	204.1	229.1	231.1	267	1.1	6	□	2
MPS1-0580-L40C		40	299.1	233.1	261.1	262.1	298	1.1	6	●	2
MPS1-0590S-DIN	5.9	3	66.1	19.2	28.1	29.1	65	1.1	6	□	4
MPS1-0590S-DIN-C		3	66.1	19.2	28.1	29.1	65	1.1	6	●	2
MPS1-0590L-DIN		5	82.1	35.2	44.1	45.1	81	1.1	6	□	4
MPS1-0590L-DIN-C		5	82.1	35.2	44.1	45.1	81	1.1	6	●	2
MPS1-0590-PC		2	66.9	12.7	28.9	28.9	66	0.9	6	●	2
MPS1-0590-L8C		8	107.2	48.4	67.2	70.2	106	1.2	6	●	2
MPS1-0590-L10C		10	119.1	60.1	79.1	82.1	118	1.1	6	□	2
MPS1-0590-L12C		12	131.1	71.9	91.1	94.1	130	1.1	6	●	2
MPS1-0590-L15C		15	149.1	89.6	109.1	112.1	148	1.1	6	●	2
MPS1-0590-L20C		20	179.1	119.1	139.1	142.1	178	1.1	6	●	2
MPS1-0590-L25C		25	209.1	148.6	169.1	172.1	208	1.1	6	●	2
MPS1-0590-L30C		30	239.1	178.1	199.1	202.1	238	1.1	6	□	2
MPS1-0590-L35C		35	268.1	207.6	229.1	231.1	267	1.1	6	□	2
MPS1-0590-L40C		40	299.1	237.1	261.1	262.1	298	1.1	6	●	2
MPS1-0600S-DIN	6.0	3	66.1	19.1	28.1	29.1	65	1.1	6	□	4
MPS1-0600S-DIN-C		3	66.1	19.1	28.1	29.1	65	1.1	6	●	2
MPS1-0600L-DIN		5	82.1	35.1	44.1	45.1	81	1.1	6	□	4
MPS1-0600L-DIN-C		5	82.1	35.1	44.1	45.1	81	1.1	6	●	2
MPS1-0600-PC		2	66.9	12.9	28.9	28.9	66	0.9	6	●	2
MPS1-0600-L8C		8	107.2	49.2	67.2	70.2	106	1.2	6	●	2
MPS1-0600-L10C		10	119.1	61.1	79.1	82.1	118	1.1	6	□	2
MPS1-0600-L12C		12	131.1	73.1	91.1	94.1	130	1.1	6	●	2
MPS1-0600-L15C		15	149.1	91.1	109.1	112.1	148	1.1	6	●	2
MPS1-0600-L20C		20	179.1	121.1	139.1	142.1	178	1.1	6	●	2
MPS1-0600-L25C		25	209.1	151.1	169.1	172.1	208	1.1	6	●	2
MPS1-0600-L30C		30	239.1	181.1	199.1	202.1	238	1.1	6	●	2
MPS1-0600-L35C		35	268.1	211.1	229.1	231.1	267	1.1	6	□	2
MPS1-0600-L40C		40	299.1	241.1	261.1	262.1	298	1.1	6	●	2
MPS1-0605S-DIN	6.05	3	79.1	25.0	34.1	42.1	78	1.1	8	□	4
MPS1-0605S-DIN-C		3	79.1	25.0	34.1	42.1	78	1.1	8	●	2
MPS1-0605L-DIN		5	91.1	44.0	53.1	54.1	90	1.1	8	□	4
MPS1-0605L-DIN-C		5	91.1	44.0	53.1	54.1	90	1.1	8	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0610S-DIN		3	79.1	25.0	34.1	42.1	78	1.1	8	□	4
MPS1-0610S-DIN-C		3	79.1	25.0	34.1	42.1	78	1.1	8	●	2
MPS1-0610L-DIN		5	91.1	44.0	53.1	54.1	90	1.1	8	□	4
MPS1-0610L-DIN-C		5	91.1	44.0	53.1	54.1	90	1.1	8	●	2
MPS1-0610-PC		2	75.0	13.2	32.0	35.0	74	1.0	8	●	2
MPS1-0610-L8C		8	113.3	50.1	73.3	76.3	112	1.3	8	●	2
MPS1-0610-L10C	6.1	10	126.1	62.1	86.1	89.1	125	1.1	8	□	2
MPS1-0610-L12C		12	139.1	74.3	99.1	102.1	138	1.1	8	●	2
MPS1-0610-L15C		15	158.1	92.6	118.1	121.1	157	1.1	8	●	2
MPS1-0610-L20C		20	191.1	123.1	151.1	154.1	190	1.1	8	●	2
MPS1-0610-L25C		25	223.1	153.6	183.1	186.1	222	1.1	8	●	2
MPS1-0610-L30C		30	256.1	184.1	216.1	219.1	255	1.1	8	●	2
MPS1-0610-L35C		35	287.1	214.6	241.1	250.1	286	1.1	8	□	2
MPS1-0610-L40C		40	321.1	245.1	271.1	284.1	320	1.1	8	●	2
MPS1-0620S-DIN		3	79.1	24.8	34.1	42.1	78	1.1	8	□	4
MPS1-0620S-DIN-C		3	79.1	24.8	34.1	42.1	78	1.1	8	●	2
MPS1-0620L-DIN		5	91.1	43.8	53.1	54.1	90	1.1	8	□	4
MPS1-0620L-DIN-C		5	91.1	43.8	53.1	54.1	90	1.1	8	●	2
MPS1-0620-PC		2	75.0	13.4	32.0	35.0	74	1.0	8	●	2
MPS1-0620-L8C		8	113.3	50.9	73.3	76.3	112	1.3	8	●	2
MPS1-0620-L10C	6.2	10	126.1	63.1	86.1	89.1	125	1.1	8	□	2
MPS1-0620-L12C		12	139.1	75.5	99.1	102.1	138	1.1	8	●	2
MPS1-0620-L15C		15	158.1	94.1	118.1	121.1	157	1.1	8	●	2
MPS1-0620-L20C		20	191.1	125.1	151.1	154.1	190	1.1	8	●	2
MPS1-0620-L25C		25	223.1	156.1	183.1	186.1	222	1.1	8	□	2
MPS1-0620-L30C		30	256.1	187.1	216.1	219.1	255	1.1	8	●	2
MPS1-0620-L35C		35	287.1	218.1	241.1	250.1	286	1.1	8	□	2
MPS1-0620-L40C		40	321.1	249.1	271.1	284.1	320	1.1	8	●	2
MPS1-0630S-DIN		3	79.1	24.7	34.1	42.1	78	1.1	8	□	4
MPS1-0630S-DIN-C		3	79.1	24.7	34.1	42.1	78	1.1	8	●	2
MPS1-0630L-DIN		5	91.1	43.7	53.1	54.1	90	1.1	8	□	4
MPS1-0630L-DIN-C		5	91.1	43.7	53.1	54.1	90	1.1	8	●	2
MPS1-0630-PC		2	75.0	13.6	32.0	35.0	74	1.0	8	●	2
MPS1-0630-L8C		8	113.3	51.7	73.3	76.3	112	1.3	8	●	2
MPS1-0630-L10C	6.3	10	126.1	64.1	86.1	89.1	125	1.1	8	□	2
MPS1-0630-L12C		12	139.1	76.7	99.1	102.1	138	1.1	8	●	2
MPS1-0630-L15C		15	158.1	95.6	118.1	121.1	157	1.1	8	●	2
MPS1-0630-L20C		20	191.1	127.1	151.1	154.1	190	1.1	8	●	2
MPS1-0630-L25C		25	223.1	158.6	183.1	186.1	222	1.1	8	□	2
MPS1-0630-L30C		30	256.1	190.1	216.1	219.1	255	1.1	8	●	2
MPS1-0630-L35C		35	287.1	221.6	248.1	250.1	286	1.1	8	□	2
MPS1-0630-L40C		40	321.1	253.1	281.1	284.1	320	1.1	8	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0640S-DIN	6.4	3	79.2	24.6	34.2	42.2	78	1.2	8	□	4
MPS1-0640S-DIN-C		3	79.2	24.6	34.2	42.2	78	1.2	8	●	2
MPS1-0640L-DIN		5	91.2	43.6	53.2	54.2	90	1.2	8	□	4
MPS1-0640L-DIN-C		5	91.2	43.6	53.2	54.2	90	1.2	8	●	2
MPS1-0640-PC		2	75.0	13.8	32.0	35.0	74	1.0	8	●	2
MPS1-0640-L8C		8	113.3	52.5	73.3	76.3	112	1.3	8	●	2
MPS1-0640-L10C		10	126.2	65.2	86.2	89.2	125	1.2	8	□	2
MPS1-0640-L12C		12	139.2	78.0	99.2	102.2	138	1.2	8	●	2
MPS1-0640-L15C		15	158.2	97.2	118.2	121.2	157	1.2	8	●	2
MPS1-0640-L20C		20	191.2	129.2	151.2	154.2	190	1.2	8	●	2
MPS1-0640-L25C		25	223.2	161.2	183.2	186.2	222	1.2	8	●	2
MPS1-0640-L30C		30	256.2	193.2	216.2	219.2	255	1.2	8	●	2
MPS1-0640-L35C		35	287.2	225.2	248.2	250.2	286	1.2	8	□	2
MPS1-0640-L40C		40	321.2	257.2	281.2	284.2	320	1.2	8	●	2
MPS1-0650S-DIN	6.5	3	79.2	24.4	34.2	42.2	78	1.2	8	□	4
MPS1-0650S-DIN-C		3	79.2	24.4	34.2	42.2	78	1.2	8	●	2
MPS1-0650L-DIN		5	91.2	43.4	53.2	54.2	90	1.2	8	□	4
MPS1-0650L-DIN-C		5	91.2	43.4	53.2	54.2	90	1.2	8	●	2
MPS1-0650-PC		2	75.0	14.0	32.0	35.0	74	1.0	8	●	2
MPS1-0650-L8C		8	113.3	53.3	73.3	76.3	112	1.3	8	●	2
MPS1-0650-L10C		10	126.2	66.2	86.2	89.2	125	1.2	8	□	2
MPS1-0650-L12C		12	139.2	79.2	99.2	102.2	138	1.2	8	●	2
MPS1-0650-L15C		15	158.2	98.7	118.2	121.2	157	1.2	8	●	2
MPS1-0650-L20C		20	191.2	131.2	151.2	154.2	190	1.2	8	●	2
MPS1-0650-L25C		25	223.2	163.7	183.2	186.2	222	1.2	8	●	2
MPS1-0650-L30C		30	256.2	196.2	216.2	219.2	255	1.2	8	●	2
MPS1-0650-L35C		35	287.2	228.7	248.2	250.2	286	1.2	8	□	2
MPS1-0650-L40C		40	321.2	261.2	281.2	284.2	320	1.2	8	●	2
MPS1-0660S-DIN	6.6	3	79.2	24.3	34.2	42.2	78	1.2	8	□	4
MPS1-0660S-DIN-C		3	79.2	24.3	34.2	42.2	78	1.2	8	●	2
MPS1-0660L-DIN		5	91.2	43.3	53.2	54.2	90	1.2	8	□	4
MPS1-0660L-DIN-C		5	91.2	43.3	53.2	54.2	90	1.2	8	●	2
MPS1-0660-PC		2	75.0	14.2	35.0	37.0	74	1.0	8	●	2
MPS1-0660-L8C		8	118.4	54.2	78.4	81.4	117	1.4	8	●	2
MPS1-0660-L10C		10	132.2	67.2	92.2	95.2	131	1.2	8	□	2
MPS1-0660-L12C		12	146.2	80.4	106.2	109.2	145	1.2	8	●	2
MPS1-0660-L15C		15	167.2	100.2	127.2	130.2	166	1.2	8	●	2
MPS1-0660-L20C		20	202.2	133.2	162.2	165.2	201	1.2	8	□	2
MPS1-0660-L25C		25	237.2	166.2	197.2	200.2	236	1.2	8	●	2
MPS1-0660-L30C		30	272.2	199.2	232.2	235.2	271	1.2	8	●	2
MPS1-0660-L35C		35	306.2	232.2	267.2	269.2	305	1.2	8	□	2
MPS1-0660-L40C		40	341.2	265.2	301.2	304.2	340	1.2	8	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0670S-DIN		3	79.2	24.2	34.2	42.2	78	1.2	8	□	4
MPS1-0670S-DIN-C		3	79.2	24.2	34.2	42.2	78	1.2	8	●	2
MPS1-0670L-DIN		5	91.2	43.2	53.2	54.2	90	1.2	8	□	4
MPS1-0670L-DIN-C		5	91.2	43.2	53.2	54.2	90	1.2	8	●	2
MPS1-0670-PC		2	75.1	14.5	35.1	37.1	74	1.1	8	●	2
MPS1-0670-L8C		8	118.4	55.0	78.4	81.4	117	1.4	8	●	2
MPS1-0670-L10C	6.7	10	132.2	68.2	92.2	95.2	131	1.2	8	□	2
MPS1-0670-L12C		12	146.2	81.6	106.2	109.2	145	1.2	8	●	2
MPS1-0670-L15C		15	167.2	101.7	127.2	130.2	166	1.2	8	●	2
MPS1-0670-L20C		20	202.2	135.2	162.2	165.2	201	1.2	8	□	2
MPS1-0670-L25C		25	237.2	168.7	197.2	200.2	236	1.2	8	□	2
MPS1-0670-L30C		30	272.2	202.2	232.2	235.2	271	1.2	8	●	2
MPS1-0670-L35C		35	306.2	235.7	267.2	269.2	305	1.2	8	□	2
MPS1-0670-L40C		40	341.2	269.2	301.2	304.2	340	1.2	8	□	2
MPS1-0680S-DIN		3	79.2	24.0	34.2	42.2	78	1.2	8	●	4
MPS1-0680S-DIN-C		3	79.2	24.0	34.2	42.2	78	1.2	8	●	2
MPS1-0680L-DIN		5	91.2	43.0	53.2	54.2	90	1.2	8	□	4
MPS1-0680L-DIN-C		5	91.2	43.0	53.2	54.2	90	1.2	8	●	2
MPS1-0680-PC		2	75.1	14.7	35.1	37.1	74	1.1	8	●	2
MPS1-0680-L8C		8	118.4	55.8	78.4	81.4	117	1.4	8	●	2
MPS1-0680-L10C	6.8	10	132.2	69.2	92.2	95.2	131	1.2	8	□	2
MPS1-0680-L12C		12	146.2	82.8	106.2	109.2	145	1.2	8	●	2
MPS1-0680-L15C		15	167.2	103.2	127.2	130.2	166	1.2	8	●	2
MPS1-0680-L20C		20	202.2	137.2	162.2	165.2	201	1.2	8	●	2
MPS1-0680-L25C		25	237.2	171.2	197.2	200.2	236	1.2	8	●	2
MPS1-0680-L30C		30	272.2	205.2	232.2	235.2	271	1.2	8	●	2
MPS1-0680-L35C		35	306.2	239.2	267.2	269.2	305	1.2	8	□	2
MPS1-0680-L40C		40	341.2	273.2	301.2	304.2	340	1.2	8	●	2
MPS1-0690S-DIN		3	79.3	23.9	34.3	42.3	78	1.3	8	□	4
MPS1-0690S-DIN-C		3	79.3	23.9	34.3	42.3	78	1.3	8	●	2
MPS1-0690L-DIN		5	91.3	42.9	53.3	54.3	90	1.3	8	□	4
MPS1-0690L-DIN-C		5	91.3	42.9	53.3	54.3	90	1.3	8	●	2
MPS1-0690-PC		2	75.1	14.9	35.1	37.1	74	1.1	8	●	2
MPS1-0690-L8C		8	118.4	56.6	78.4	81.4	117	1.4	8	●	2
MPS1-0690-L10C	6.9	10	132.3	70.3	92.3	95.3	131	1.3	8	□	2
MPS1-0690-L12C		12	146.3	84.1	106.3	109.3	145	1.3	8	●	2
MPS1-0690-L15C		15	167.3	104.8	127.3	130.3	166	1.3	8	●	2
MPS1-0690-L20C		20	202.3	139.3	162.3	165.3	201	1.3	8	●	2
MPS1-0690-L25C		25	237.3	173.8	197.3	200.3	236	1.3	8	●	2
MPS1-0690-L30C		30	272.3	208.3	232.3	235.3	271	1.3	8	●	2
MPS1-0690-L35C		35	306.3	242.8	267.3	269.3	305	1.3	8	□	2
MPS1-0690-L40C		40	341.3	277.3	301.3	304.3	340	1.3	8	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0700S-DIN		3	79.3	23.8	34.3	42.3	78	1.3	8	□	4
MPS1-0700S-DIN-C		3	79.3	23.8	34.3	42.3	78	1.3	8	●	2
MPS1-0700L-DIN		5	91.3	42.8	53.3	54.3	90	1.3	8	□	4
MPS1-0700L-DIN-C		5	91.3	42.8	53.3	54.3	90	1.3	8	●	2
MPS1-0700-PC		2	75.1	15.1	35.1	37.1	74	1.1	8	●	2
MPS1-0700-L8C		8	118.4	57.4	78.4	81.4	117	1.4	8	●	2
MPS1-0700-L10C	7.0	10	132.3	71.3	92.3	95.3	131	1.3	8	●	2
MPS1-0700-L12C		12	146.3	85.3	106.3	109.3	145	1.3	8	●	2
MPS1-0700-L15C		15	167.3	106.3	127.3	130.3	166	1.3	8	●	2
MPS1-0700-L20C		20	202.3	141.3	162.3	165.3	201	1.3	8	●	2
MPS1-0700-L25C		25	237.3	176.3	197.3	200.3	236	1.3	8	●	2
MPS1-0700-L30C		30	272.3	211.3	232.3	235.3	271	1.3	8	●	2
MPS1-0700-L35C		35	306.3	246.3	267.3	269.3	305	1.3	8	□	2
MPS1-0700-L40C		40	341.3	281.3	301.3	304.3	340	1.3	8	●	2
MPS1-0710S-DIN		3	79.3	30.6	41.3	42.3	78	1.3	8	□	4
MPS1-0710S-DIN-C		3	79.3	30.6	41.3	42.3	78	1.3	8	●	2
MPS1-0710L-DIN		5	91.3	42.6	53.3	54.3	90	1.3	8	□	4
MPS1-0710L-DIN-C		5	91.3	42.6	53.3	54.3	90	1.3	8	●	2
MPS1-0710-PC		2	80.1	15.3	35.1	38.1	79	1.1	8	●	2
MPS1-0710-L8C		8	124.5	58.3	84.5	87.5	123	1.5	8	●	2
MPS1-0710-L10C	7.1	10	139.3	72.3	99.3	102.3	138	1.3	8	□	2
MPS1-0710-L12C		12	154.3	86.5	114.3	117.3	153	1.3	8	●	2
MPS1-0710-L15C		15	176.3	107.8	136.3	139.3	175	1.3	8	●	2
MPS1-0710-L20C		20	214.3	143.3	174.3	177.3	213	1.3	8	●	2
MPS1-0710-L25C		25	251.3	178.8	211.3	214.3	250	1.3	8	●	2
MPS1-0710-L30C		30	289.3	214.3	249.3	252.3	288	1.3	8	●	2
MPS1-0710-L35C		35	325.3	249.8	286.3	288.3	324	1.3	8	□	2
MPS1-0710-L40C		40	360.3	285.3	321.3	323.3	359	1.3	8	●	2
MPS1-0720S-DIN		3	79.3	30.5	41.3	42.3	78	1.3	8	□	4
MPS1-0720S-DIN-C		3	79.3	30.5	41.3	42.3	78	1.3	8	●	2
MPS1-0720L-DIN		5	91.3	42.5	53.3	54.3	90	1.3	8	□	4
MPS1-0720L-DIN-C		5	91.3	42.5	53.3	54.3	90	1.3	8	●	2
MPS1-0720-PC		2	80.1	15.5	35.1	38.1	79	1.1	8	●	2
MPS1-0720-L8C		8	124.5	59.1	84.5	87.5	123	1.5	8	●	2
MPS1-0720-L10C	7.2	10	139.3	73.3	99.3	102.3	138	1.3	8	□	2
MPS1-0720-L12C		12	154.3	87.7	114.3	117.3	153	1.3	8	●	2
MPS1-0720-L15C		15	176.3	109.3	136.3	139.3	175	1.3	8	□	2
MPS1-0720-L20C		20	214.3	145.3	174.3	177.3	213	1.3	8	□	2
MPS1-0720-L25C		25	251.3	181.3	211.3	214.3	250	1.3	8	□	2
MPS1-0720-L30C		30	289.3	217.3	249.3	252.3	288	1.3	8	□	2
MPS1-0720-L35C		35	325.3	253.3	286.3	288.3	324	1.3	8	□	2
MPS1-0720-L40C		40	360.3	289.3	321.3	323.3	359	1.3	8	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0730S-DIN		3	79.3	30.4	41.3	42.3	78	1.3	8	□	4
MPS1-0730S-DIN-C		3	79.3	30.4	41.3	42.3	78	1.3	8	●	2
MPS1-0730L-DIN		5	91.3	42.4	53.3	54.3	90	1.3	8	□	4
MPS1-0730L-DIN-C		5	91.3	42.4	53.3	54.3	90	1.3	8	●	2
MPS1-0730-PC		2	80.2	15.8	35.2	38.2	79	1.2	8	●	2
MPS1-0730-L8C		8	124.5	59.9	84.5	87.5	123	1.5	8	●	2
MPS1-0730-L10C	7.3	10	139.3	74.3	99.3	102.3	138	1.3	8	□	2
MPS1-0730-L12C		12	154.3	88.9	114.3	117.3	153	1.3	8	●	2
MPS1-0730-L15C		15	176.3	110.8	136.3	139.3	175	1.3	8	□	2
MPS1-0730-L20C		20	214.3	147.3	174.3	177.3	213	1.3	8	□	2
MPS1-0730-L25C		25	251.3	183.8	211.3	214.3	250	1.3	8	□	2
MPS1-0730-L30C		30	289.3	220.3	249.3	252.3	288	1.3	8	□	2
MPS1-0730-L35C		35	325.3	256.8	286.3	288.3	324	1.3	8	□	2
MPS1-0730-L40C		40	360.3	293.3	321.3	323.3	359	1.3	8	●	2
MPS1-0740S-DIN		3	79.3	30.2	41.3	42.3	78	1.3	8	□	4
MPS1-0740S-DIN-C		3	79.3	30.2	41.3	42.3	78	1.3	8	●	2
MPS1-0740L-DIN		5	91.3	42.2	53.3	54.3	90	1.3	8	□	4
MPS1-0740L-DIN-C		5	91.3	42.2	53.3	54.3	90	1.3	8	●	2
MPS1-0740-PC		2	80.2	16.0	35.2	38.2	79	1.2	8	●	2
MPS1-0740-L8C		8	124.5	60.7	84.5	87.5	123	1.5	8	●	2
MPS1-0740-L10C	7.4	10	139.3	75.3	99.3	102.3	138	1.3	8	□	2
MPS1-0740-L12C		12	154.3	90.1	114.3	117.3	153	1.3	8	●	2
MPS1-0740-L15C		15	176.3	112.3	136.3	139.3	175	1.3	8	□	2
MPS1-0740-L20C		20	214.3	149.3	174.3	177.3	213	1.3	8	□	2
MPS1-0740-L25C		25	251.3	186.3	211.3	214.3	250	1.3	8	□	2
MPS1-0740-L30C		30	289.3	223.3	249.3	252.3	288	1.3	8	□	2
MPS1-0740-L35C		35	325.3	260.3	286.3	288.3	324	1.3	8	□	2
MPS1-0740-L40C		40	360.3	297.3	321.3	323.3	359	1.3	8	●	2
MPS1-0750S-DIN		3	79.4	30.1	41.4	42.4	78	1.4	8	□	4
MPS1-0750S-DIN-C		3	79.4	30.1	41.4	42.4	78	1.4	8	●	2
MPS1-0750L-DIN		5	91.4	42.1	53.4	54.4	90	1.4	8	□	4
MPS1-0750L-DIN-C		5	91.4	42.1	53.4	54.4	90	1.4	8	●	2
MPS1-0750-PC		2	80.2	16.2	35.2	38.2	79	1.2	8	●	2
MPS1-0750-L8C		8	124.6	61.6	84.6	87.6	123	1.6	8	●	2
MPS1-0750-L10C	7.5	10	139.4	76.4	99.4	102.4	138	1.4	8	□	2
MPS1-0750-L12C		12	154.4	91.4	114.4	117.4	153	1.4	8	●	2
MPS1-0750-L15C		15	176.4	113.9	136.4	139.4	175	1.4	8	●	2
MPS1-0750-L20C		20	214.4	151.4	174.4	177.4	213	1.4	8	●	2
MPS1-0750-L25C		25	251.4	188.9	211.4	214.4	250	1.4	8	●	2
MPS1-0750-L30C		30	289.4	226.4	249.4	252.4	288	1.4	8	●	2
MPS1-0750-L35C		35	325.4	263.9	286.4	288.4	324	1.4	8	□	2
MPS1-0750-L40C		40	360.4	301.4	321.4	323.4	359	1.4	8	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0760S-DIN		3	79.4	30.0	41.4	42.4	78	1.4	8	□	4
MPS1-0760S-DIN-C		3	79.4	30.0	41.4	42.4	78	1.4	8	●	2
MPS1-0760L-DIN		5	91.4	42.0	53.4	54.4	90	1.4	8	□	4
MPS1-0760L-DIN-C		5	91.4	42.0	53.4	54.4	90	1.4	8	●	2
MPS1-0760-PC		2	80.2	16.4	38.2	38.2	79	1.2	8	●	2
MPS1-0760-L8C		8	129.6	62.4	89.6	92.6	128	1.6	8	●	2
MPS1-0760-L10C	7.6	10	145.4	77.4	105.4	108.4	144	1.4	8	□	2
MPS1-0760-L12C		12	161.4	92.6	121.4	124.4	160	1.4	8	●	2
MPS1-0760-L15C		15	185.4	115.4	145.4	148.4	184	1.4	8	●	2
MPS1-0760-L20C		20	225.4	153.4	185.4	188.4	224	1.4	8	□	2
MPS1-0760-L25C		25	265.4	191.4	225.4	228.4	264	1.4	8	●	2
MPS1-0760-L30C		30	305.4	229.4	265.4	268.4	304	1.4	8	□	2
MPS1-0760-L35C		35	344.4	267.4	305.4	307.4	343	1.4	8	□	2
MPS1-0760-L40C		40	379.4	305.4	341.4	342.4	378	1.4	8	●	2
MPS1-0770S-DIN		3	79.4	29.9	41.4	42.4	78	1.4	8	□	4
MPS1-0770S-DIN-C		3	79.4	29.9	41.4	42.4	78	1.4	8	●	2
MPS1-0770L-DIN		5	91.4	41.9	53.4	54.4	90	1.4	8	□	4
MPS1-0770L-DIN-C		5	91.4	41.9	53.4	54.4	90	1.4	8	●	2
MPS1-0770-PC		2	80.2	16.6	38.2	38.2	79	1.2	8	●	2
MPS1-0770-L8C		8	129.6	63.2	89.6	92.6	128	1.6	8	●	2
MPS1-0770-L10C	7.7	10	145.4	78.4	105.4	108.4	144	1.4	8	□	2
MPS1-0770-L12C		12	161.4	93.8	121.4	124.4	160	1.4	8	●	2
MPS1-0770-L15C		15	185.4	116.9	145.4	148.4	184	1.4	8	●	2
MPS1-0770-L20C		20	225.4	155.4	185.4	188.4	224	1.4	8	□	2
MPS1-0770-L25C		25	265.4	193.9	225.4	228.4	264	1.4	8	●	2
MPS1-0770-L30C		30	305.4	232.4	265.4	268.4	304	1.4	8	□	2
MPS1-0770-L35C		35	344.4	270.9	305.4	307.4	343	1.4	8	□	2
MPS1-0770-L40C		40	379.4	309.4	341.4	342.4	378	1.4	8	●	2
MPS1-0780S-DIN		3	79.4	29.7	41.4	42.4	78	1.4	8	□	4
MPS1-0780S-DIN-C		3	79.4	29.7	41.4	42.4	78	1.4	8	●	2
MPS1-0780L-DIN		5	91.4	41.7	53.4	54.4	90	1.4	8	□	4
MPS1-0780L-DIN-C		5	91.4	41.7	53.4	54.4	90	1.4	8	●	2
MPS1-0780-PC		2	80.2	16.8	38.2	38.2	79	1.2	8	●	2
MPS1-0780-L8C		8	129.6	64.0	89.6	92.6	128	1.6	8	●	2
MPS1-0780-L10C	7.8	10	145.4	79.4	105.4	108.4	144	1.4	8	□	2
MPS1-0780-L12C		12	161.4	95.0	121.4	124.4	160	1.4	8	●	2
MPS1-0780-L15C		15	185.4	118.4	145.4	148.4	184	1.4	8	●	2
MPS1-0780-L20C		20	225.4	157.4	185.4	188.4	224	1.4	8	□	2
MPS1-0780-L25C		25	265.4	196.4	225.4	228.4	264	1.4	8	□	2
MPS1-0780-L30C		30	305.4	235.4	265.4	268.4	304	1.4	8	●	2
MPS1-0780-L35C		35	344.4	274.4	305.4	307.4	343	1.4	8	□	2
MPS1-0780-L40C		40	379.4	313.4	341.4	342.4	378	1.4	8	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0790S-DIN	7.9	3	79.4	29.6	41.4	42.4	78	1.4	8	□	4
MPS1-0790S-DIN-C		3	79.4	29.6	41.4	42.4	78	1.4	8	●	2
MPS1-0790L-DIN		5	91.4	41.6	53.4	54.4	90	1.4	8	□	4
MPS1-0790L-DIN-C		5	91.4	41.6	53.4	54.4	90	1.4	8	●	2
MPS1-0790-PC		2	80.2	17.0	38.2	38.2	79	1.2	8	●	2
MPS1-0790-L8C		8	129.6	64.8	89.6	92.6	128	1.6	8	●	2
MPS1-0790-L10C		10	145.4	80.4	105.4	108.4	144	1.4	8	□	2
MPS1-0790-L12C		12	161.4	96.2	121.4	124.4	160	1.4	8	●	2
MPS1-0790-L15C		15	185.4	119.9	145.4	148.4	184	1.4	8	□	2
MPS1-0790-L20C		20	225.4	159.4	185.4	188.4	224	1.4	8	□	2
MPS1-0790-L25C		25	265.4	198.9	225.4	228.4	264	1.4	8	●	2
MPS1-0790-L30C		30	305.4	238.4	265.4	268.4	304	1.4	8	●	2
MPS1-0790-L35C		35	344.4	277.9	305.4	307.4	343	1.4	8	□	2
MPS1-0790-L40C		40	379.4	317.4	341.4	342.4	378	1.4	8	●	2
MPS1-0800S-DIN	8.0	3	79.5	29.5	41.5	42.5	78	1.5	8	□	4
MPS1-0800S-DIN-C		3	79.5	29.5	41.5	42.5	78	1.5	8	●	2
MPS1-0800L-DIN		5	91.5	41.5	53.5	54.5	90	1.5	8	□	4
MPS1-0800L-DIN-C		5	91.5	41.5	53.5	54.5	90	1.5	8	●	2
MPS1-0800-PC		2	80.3	17.3	38.3	38.3	79	1.3	8	●	2
MPS1-0800-L8C		8	129.7	65.7	89.7	92.7	128	1.7	8	●	2
MPS1-0800-L10C		10	145.5	81.5	105.5	108.5	144	1.5	8	●	2
MPS1-0800-L12C		12	161.5	97.5	121.5	124.5	160	1.5	8	●	2
MPS1-0800-L15C		15	185.5	121.5	145.5	148.5	184	1.5	8	●	2
MPS1-0800-L20C		20	225.5	161.5	185.5	188.5	224	1.5	8	●	2
MPS1-0800-L25C		25	265.5	201.5	225.5	228.5	264	1.5	8	●	2
MPS1-0800-L30C		30	305.5	241.5	265.5	268.5	304	1.5	8	●	2
MPS1-0800-L35C		35	344.5	281.5	305.5	307.5	343	1.5	8	□	2
MPS1-0800-L40C		40	379.5	321.5	341.5	342.5	378	1.5	8	●	2
MPS1-0805S-DIN	8.05	3	88.5	34.4	46.5	47.5	87	1.5	10	□	4
MPS1-0805S-DIN-C		3	88.5	34.4	46.5	47.5	87	1.5	10	●	2
MPS1-0805L-DIN		5	102.5	48.4	60.5	61.5	101	1.5	10	□	4
MPS1-0805L-DIN-C		5	102.5	48.4	60.5	61.5	101	1.5	10	●	2
MPS1-0810S-DIN	8.1	3	88.5	34.3	46.5	47.5	87	1.5	10	□	4
MPS1-0810S-DIN-C		3	88.5	34.3	46.5	47.5	87	1.5	10	●	2
MPS1-0810L-DIN		5	102.5	48.3	60.5	61.5	101	1.5	10	□	4
MPS1-0810L-DIN-C		5	102.5	48.3	60.5	61.5	101	1.5	10	●	2
MPS1-0810-PC		2	85.3	17.5	38.3	41.3	84	1.3	10	●	2
MPS1-0810-L8C		8	139.7	66.5	95.7	98.7	138	1.7	10	●	2
MPS1-0810-L10C		10	156.5	82.5	112.5	115.5	155	1.5	10	□	2
MPS1-0810-L12C		12	173.5	98.7	129.5	132.5	172	1.5	10	●	2
MPS1-0810-L15C		15	198.5	123.0	154.5	157.5	197	1.5	10	●	2
MPS1-0810-L20C		20	241.5	163.5	197.5	200.5	240	1.5	10	●	2
MPS1-0810-L25C		25	283.5	204.0	239.5	242.5	282	1.5	10	□	2
MPS1-0810-L30C		30	325.5	244.5	282.5	284.5	324	1.5	10	□	2
MPS1-0810-L35C		35	367.5	285.0	324.5	326.5	366	1.5	10	□	2
MPS1-0810-L40C		40	411.5	325.5	366.5	370.5	410	1.5	10	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo	
MPS1-0820S-DIN	8.2	3	88.5	34.2	46.5	47.5	87	1.5	10	□	4	
MPS1-0820S-DIN-C		3	88.5	34.2	46.5	47.5	87	1.5	10	●	2	
MPS1-0820L-DIN		5	102.5	48.2	60.5	61.5	101	1.5	10	□	4	
MPS1-0820L-DIN-C		5	102.5	48.2	60.5	61.5	101	1.5	10	●	2	
MPS1-0820-PC		2	85.3	17.7	38.3	41.3	84	1.3	10	●	2	
MPS1-0820-L8C		8	139.7	67.3	95.7	98.7	138	1.7	10	●	2	
MPS1-0820-L10C		10	156.5	83.5	112.5	115.5	155	1.5	10	□	2	
MPS1-0820-L12C		12	173.5	99.9	129.5	132.5	172	1.5	10	●	2	
MPS1-0820-L15C		15	198.5	124.5	154.5	157.5	197	1.5	10	●	2	
MPS1-0820-L20C		20	241.5	165.5	197.5	200.5	240	1.5	10	●	2	
MPS1-0820-L25C		25	283.5	206.5	239.5	242.5	282	1.5	10	□	2	
MPS1-0820-L30C		30	325.5	247.5	282.5	284.5	324	1.5	10	□	2	
MPS1-0820-L35C		35	367.5	288.5	324.5	326.5	366	1.5	10	□	2	
MPS1-0820-L40C		40	411.5	329.5	366.5	370.5	410	1.5	10	●	2	
MPS1-0830S-DIN		8.3	3	88.5	34.1	46.5	47.5	87	1.5	10	□	4
MPS1-0830S-DIN-C			3	88.5	34.1	46.5	47.5	87	1.5	10	●	2
MPS1-0830L-DIN	5		102.5	48.1	60.5	61.5	101	1.5	10	□	4	
MPS1-0830L-DIN-C	5		102.5	48.1	60.5	61.5	101	1.5	10	●	2	
MPS1-0830-PC	2		85.3	17.9	38.3	41.3	84	1.3	10	●	2	
MPS1-0830-L8C	8		139.7	68.1	95.7	98.7	138	1.7	10	●	2	
MPS1-0830-L10C	10		156.5	84.5	112.5	115.5	155	1.5	10	□	2	
MPS1-0830-L12C	12		173.5	101.1	129.5	132.5	172	1.5	10	●	2	
MPS1-0830-L15C	15		198.5	126.0	154.5	157.5	197	1.5	10	□	2	
MPS1-0830-L20C	20		241.5	167.5	197.5	200.5	240	1.5	10	□	2	
MPS1-0830-L25C	25		283.5	209.0	239.5	242.5	282	1.5	10	□	2	
MPS1-0830-L30C	30		325.5	250.5	282.5	284.5	324	1.5	10	□	2	
MPS1-0830-L35C	35		367.5	292.0	324.5	326.5	366	1.5	10	□	2	
MPS1-0830-L40C	40		411.5	333.5	366.5	370.5	410	1.5	10	●	2	
MPS1-0840S-DIN	8.4		3	88.5	33.9	46.5	47.5	87	1.5	10	□	4
MPS1-0840S-DIN-C			3	88.5	33.9	46.5	47.5	87	1.5	10	●	2
MPS1-0840L-DIN		5	102.5	47.9	60.5	61.5	101	1.5	10	□	4	
MPS1-0840L-DIN-C		5	102.5	47.9	60.5	61.5	101	1.5	10	●	2	
MPS1-0840-PC		2	85.3	18.1	38.3	41.3	84	1.3	10	●	2	
MPS1-0840-L8C		8	139.7	68.9	95.7	98.7	138	1.7	10	●	2	
MPS1-0840-L10C		10	156.5	85.5	112.5	115.5	155	1.5	10	□	2	
MPS1-0840-L12C		12	173.5	102.3	129.5	132.5	172	1.5	10	●	2	
MPS1-0840-L15C		15	198.5	127.5	154.5	157.5	197	1.5	10	●	2	
MPS1-0840-L20C		20	241.5	169.5	197.5	200.5	240	1.5	10	□	2	
MPS1-0840-L25C		25	283.5	211.5	239.5	242.5	282	1.5	10	□	2	
MPS1-0840-L30C		30	325.5	253.5	282.5	284.5	324	1.5	10	□	2	
MPS1-0840-L35C		35	367.5	295.5	324.5	326.5	366	1.5	10	□	2	
MPS1-0840-L40C		40	411.5	337.5	366.5	370.5	410	1.5	10	●	2	

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0850S-DIN	8.5	3	88.5	33.8	46.5	47.5	87	1.5	10	□	4
MPS1-0850S-DIN-C		3	88.5	33.8	46.5	47.5	87	1.5	10	●	2
MPS1-0850L-DIN		5	102.5	47.8	60.5	61.5	101	1.5	10	□	4
MPS1-0850L-DIN-C		5	102.5	47.8	60.5	61.5	101	1.5	10	●	2
MPS1-0850-PC		2	85.3	18.3	38.3	41.3	84	1.3	10	●	2
MPS1-0850-L8C		8	139.8	69.8	95.8	98.8	138	1.8	10	●	2
MPS1-0850-L10C		10	156.5	86.5	112.5	115.5	155	1.5	10	□	2
MPS1-0850-L12C		12	173.5	103.5	129.5	132.5	172	1.5	10	●	2
MPS1-0850-L15C		15	198.5	129.0	154.5	157.5	197	1.5	10	●	2
MPS1-0850-L20C		20	241.5	171.5	197.5	200.5	240	1.5	10	●	2
MPS1-0850-L25C		25	283.5	214.0	239.5	242.5	282	1.5	10	●	2
MPS1-0850-L30C		30	325.5	256.5	282.5	284.5	324	1.5	10	●	2
MPS1-0850-L35C		35	367.5	299.0	324.5	326.5	366	1.5	10	□	2
MPS1-0850-L40C		40	411.5	341.5	366.5	370.5	410	1.5	10	●	2
MPS1-0860S-DIN	8.6	3	88.6	33.7	46.6	47.6	87	1.6	10	□	4
MPS1-0860S-DIN-C		3	88.6	33.7	46.6	47.6	87	1.6	10	●	2
MPS1-0860L-DIN		5	102.6	47.7	60.6	61.6	101	1.6	10	□	4
MPS1-0860L-DIN-C		5	102.6	47.7	60.6	61.6	101	1.6	10	●	2
MPS1-0860-PC		2	85.4	18.6	41.4	43.4	84	1.4	10	●	2
MPS1-0860-L8C		8	144.8	70.6	100.8	103.8	143	1.8	10	●	2
MPS1-0860-L10C		10	162.6	87.6	118.6	121.6	161	1.6	10	□	2
MPS1-0860-L12C		12	180.6	104.8	136.6	139.6	179	1.6	10	●	2
MPS1-0860-L15C		15	207.6	130.6	163.6	166.6	206	1.6	10	●	2
MPS1-0860-L20C		20	252.6	173.6	208.6	211.6	251	1.6	10	□	2
MPS1-0860-L25C		25	297.6	216.6	253.6	256.6	296	1.6	10	●	2
MPS1-0860-L30C		30	341.6	259.6	298.6	300.6	340	1.6	10	●	2
MPS1-0860-L35C		35	386.6	302.6	343.6	345.6	385	1.6	10	□	2
MPS1-0860-L40C		40	435.6	345.6	391.6	394.6	434	1.6	10	●	2
MPS1-0870S-DIN	8.7	3	88.6	33.5	46.6	47.6	87	1.6	10	□	4
MPS1-0870S-DIN-C		3	88.6	33.5	46.6	47.6	87	1.6	10	●	2
MPS1-0870L-DIN		5	102.6	47.5	60.6	61.6	101	1.6	10	□	4
MPS1-0870L-DIN-C		5	102.6	47.5	60.6	61.6	101	1.6	10	●	2
MPS1-0870-PC		2	85.4	18.8	41.4	43.4	84	1.4	10	●	2
MPS1-0870-L8C		8	144.8	71.4	100.8	103.8	143	1.8	10	●	2
MPS1-0870-L10C		10	162.6	88.6	118.6	121.6	161	1.6	10	□	2
MPS1-0870-L12C		12	180.6	106.0	136.6	139.6	179	1.6	10	●	2
MPS1-0870-L15C		15	207.6	132.1	163.6	166.6	206	1.6	10	●	2
MPS1-0870-L20C		20	252.6	175.6	208.6	211.6	251	1.6	10	□	2
MPS1-0870-L25C		25	297.6	219.1	253.6	256.6	296	1.6	10	●	2
MPS1-0870-L30C		30	341.6	262.6	298.6	300.6	340	1.6	10	□	2
MPS1-0870-L35C		35	386.6	306.1	343.6	345.6	385	1.6	10	□	2
MPS1-0870-L40C		40	435.6	349.6	391.6	394.6	434	1.6	10	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0880S-DIN		3	88.6	33.4	46.6	47.6	87	1.6	10	□	4
MPS1-0880S-DIN-C		3	88.6	33.4	46.6	47.6	87	1.6	10	●	2
MPS1-0880L-DIN		5	102.6	47.4	60.6	61.6	101	1.6	10	□	4
MPS1-0880L-DIN-C		5	102.6	47.4	60.6	61.6	101	1.6	10	●	2
MPS1-0880-PC		2	85.4	19.0	41.4	43.4	84	1.4	10	●	2
MPS1-0880-L8C		8	144.8	72.2	100.8	103.8	143	1.8	10	●	2
MPS1-0880-L10C	8.8	10	162.6	89.6	118.6	121.6	161	1.6	10	□	2
MPS1-0880-L12C		12	180.6	107.2	136.6	139.6	179	1.6	10	●	2
MPS1-0880-L15C		15	207.6	133.6	163.6	166.6	206	1.6	10	●	2
MPS1-0880-L20C		20	252.6	177.6	208.6	211.6	251	1.6	10	●	2
MPS1-0880-L25C		25	297.6	221.6	253.6	256.6	296	1.6	10	●	2
MPS1-0880-L30C		30	341.6	265.6	298.6	300.6	340	1.6	10	●	2
MPS1-0880-L35C		35	386.6	309.6	343.6	345.6	385	1.6	10	□	2
MPS1-0880-L40C		40	435.6	353.6	391.6	394.6	434	1.6	10	●	2
MPS1-0890S-DIN		3	88.6	33.3	46.6	47.6	87	1.6	10	□	4
MPS1-0890S-DIN-C		3	88.6	33.3	46.6	47.6	87	1.6	10	●	2
MPS1-0890L-DIN		5	102.6	47.3	60.6	61.6	101	1.6	10	□	4
MPS1-0890L-DIN-C		5	102.6	47.3	60.6	61.6	101	1.6	10	●	2
MPS1-0890-PC		2	85.4	19.2	41.4	43.4	84	1.4	10	●	2
MPS1-0890-L8C		8	144.8	73.0	100.8	103.8	143	1.8	10	●	2
MPS1-0890-L10C	8.9	10	162.6	90.6	118.6	121.6	161	1.6	10	□	2
MPS1-0890-L12C		12	180.6	108.4	136.6	139.6	179	1.6	10	●	2
MPS1-0890-L15C		15	207.6	135.1	163.6	166.6	206	1.6	10	□	2
MPS1-0890-L20C		20	252.6	179.6	208.6	211.6	251	1.6	10	□	2
MPS1-0890-L25C		25	297.6	224.1	253.6	256.6	296	1.6	10	□	2
MPS1-0890-L30C		30	341.6	268.6	298.6	300.6	340	1.6	10	□	2
MPS1-0890-L35C		35	386.6	313.1	343.6	345.6	385	1.6	10	□	2
MPS1-0890-L40C		40	435.6	357.6	391.6	394.6	434	1.6	10	●	2
MPS1-0900S-DIN		3	88.6	33.1	46.6	47.6	87	1.6	10	□	4
MPS1-0900S-DIN-C		3	88.6	33.1	46.6	47.6	87	1.6	10	●	2
MPS1-0900L-DIN		5	102.6	47.1	60.6	61.6	101	1.6	10	□	4
MPS1-0900L-DIN-C		5	102.6	47.1	60.6	61.6	101	1.6	10	●	2
MPS1-0900-PC		2	85.4	19.4	41.4	43.4	84	1.4	10	●	2
MPS1-0900-L8C		8	144.9	73.9	100.9	103.9	143	1.9	10	●	2
MPS1-0900-L10C	9.0	10	162.6	91.6	118.6	121.6	161	1.6	10	●	2
MPS1-0900-L12C		12	180.6	109.6	136.6	139.6	179	1.6	10	●	2
MPS1-0900-L15C		15	207.6	136.6	163.6	166.6	206	1.6	10	●	2
MPS1-0900-L20C		20	252.6	181.6	208.6	211.6	251	1.6	10	●	2
MPS1-0900-L25C		25	297.6	226.6	253.6	256.6	296	1.6	10	●	2
MPS1-0900-L30C		30	341.6	271.6	298.6	300.6	340	1.6	10	●	2
MPS1-0900-L35C		35	386.6	316.6	343.6	345.6	385	1.6	10	□	2
MPS1-0900-L40C		40	435.6	361.6	391.6	394.6	434	1.6	10	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0910S-DIN		3	88.7	33.0	46.7	47.7	87	1.7	10	□	4
MPS1-0910S-DIN-C		3	88.7	33.0	46.7	47.7	87	1.7	10	●	2
MPS1-0910L-DIN		5	102.7	47.0	60.7	61.7	101	1.7	10	□	4
MPS1-0910L-DIN-C		5	102.7	47.0	60.7	61.7	101	1.7	10	●	2
MPS1-0910-PC		2	90.4	19.6	41.4	44.4	89	1.4	10	●	2
MPS1-0910-L8C		8	150.9	74.7	106.9	109.9	149	1.9	10	●	2
MPS1-0910-L10C	9.1	10	169.7	92.7	125.7	128.7	168	1.7	10	□	2
MPS1-0910-L12C		12	188.7	110.9	144.7	147.7	187	1.7	10	●	2
MPS1-0910-L15C		15	216.7	138.2	172.7	175.7	215	1.7	10	●	2
MPS1-0910-L20C		20	264.7	183.7	220.7	223.7	263	1.7	10	□	2
MPS1-0910-L25C		25	311.7	229.2	267.7	270.7	310	1.7	10	□	2
MPS1-0910-L30C		30	359.7	274.7	315.7	318.7	358	1.7	10	●	2
MPS1-0910-L35C		35	405.7	320.2	362.7	364.7	404	1.7	10	□	2
MPS1-0920S-DIN		3	88.7	32.9	46.7	47.7	87	1.7	10	□	4
MPS1-0920S-DIN-C		3	88.7	32.9	46.7	47.7	87	1.7	10	●	2
MPS1-0920L-DIN		5	102.7	46.9	60.7	61.7	101	1.7	10	□	4
MPS1-0920L-DIN-C		5	102.7	46.9	60.7	61.7	101	1.7	10	●	2
MPS1-0920-PC		2	90.5	19.9	41.5	44.5	89	1.5	10	●	2
MPS1-0920-L8C		8	150.9	75.5	106.9	109.9	149	1.9	10	●	2
MPS1-0920-L10C	9.2	10	169.7	93.7	125.7	128.7	168	1.7	10	□	2
MPS1-0920-L12C		12	188.7	112.1	144.7	147.7	187	1.7	10	●	2
MPS1-0920-L15C		15	216.7	139.7	172.7	175.7	215	1.7	10	●	2
MPS1-0920-L20C		20	264.7	185.7	220.7	223.7	263	1.7	10	□	2
MPS1-0920-L25C		25	311.7	231.7	267.7	270.7	310	1.7	10	□	2
MPS1-0920-L30C		30	359.7	277.7	315.7	318.7	358	1.7	10	□	2
MPS1-0920-L35C		35	405.7	323.7	362.7	364.7	404	1.7	10	□	2
MPS1-0930S-DIN		3	88.7	32.7	46.7	47.7	87	1.7	10	□	4
MPS1-0930S-DIN-C		3	88.7	32.7	46.7	47.7	87	1.7	10	●	2
MPS1-0930L-DIN		5	102.7	46.7	60.7	61.7	101	1.7	10	□	4
MPS1-0930L-DIN-C		5	102.7	46.7	60.7	61.7	101	1.7	10	●	2
MPS1-0930-PC		2	90.5	20.1	41.5	44.5	89	1.5	10	●	2
MPS1-0930-L8C		8	150.9	76.3	106.9	109.9	149	1.9	10	●	2
MPS1-0930-L10C	9.3	10	169.7	94.7	125.7	128.7	168	1.7	10	□	2
MPS1-0930-L12C		12	188.7	113.3	144.7	147.7	187	1.7	10	●	2
MPS1-0930-L15C		15	216.7	141.2	172.7	175.7	215	1.7	10	□	2
MPS1-0930-L20C		20	264.7	187.7	220.7	223.7	263	1.7	10	□	2
MPS1-0930-L25C		25	311.7	234.2	267.7	270.7	310	1.7	10	□	2
MPS1-0930-L30C		30	359.7	280.7	315.7	318.7	358	1.7	10	□	2
MPS1-0930-L35C		35	405.7	327.2	362.7	364.7	404	1.7	10	□	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0940S-DIN		3	88.7	32.6	46.7	47.7	87	1.7	10	□	4
MPS1-0940S-DIN-C		3	88.7	32.6	46.7	47.7	87	1.7	10	●	2
MPS1-0940L-DIN		5	102.7	46.6	60.7	61.7	101	1.7	10	□	4
MPS1-0940L-DIN-C		5	102.7	46.6	60.7	61.7	101	1.7	10	●	2
MPS1-0940-PC		2	90.5	20.3	41.5	44.5	89	1.5	10	●	2
MPS1-0940-L8C		8	150.9	77.1	106.9	109.9	149	1.9	10	●	2
MPS1-0940-L10C	9.4	10	169.7	95.7	125.7	128.7	168	1.7	10	□	2
MPS1-0940-L12C		12	188.7	114.5	144.7	147.7	187	1.7	10	●	2
MPS1-0940-L15C		15	216.7	142.7	172.7	175.7	215	1.7	10	□	2
MPS1-0940-L20C		20	264.7	189.7	220.7	223.7	263	1.7	10	□	2
MPS1-0940-L25C		25	311.7	236.7	267.7	270.7	310	1.7	10	□	2
MPS1-0940-L30C		30	359.7	283.7	315.7	318.7	358	1.7	10	□	2
MPS1-0940-L35C		35	405.7	330.7	362.7	364.7	404	1.7	10	□	2
MPS1-0950S-DIN		3	88.7	32.5	46.7	47.7	87	1.7	10	□	4
MPS1-0950S-DIN-C		3	88.7	32.5	46.7	47.7	87	1.7	10	●	2
MPS1-0950L-DIN		5	102.7	46.5	60.7	61.7	101	1.7	10	□	4
MPS1-0950L-DIN-C		5	102.7	46.5	60.7	61.7	101	1.7	10	●	2
MPS1-0950-PC		2	90.5	20.5	41.5	44.5	89	1.5	10	●	2
MPS1-0950-L8C		8	151.0	78.0	107.0	110.0	149	2.0	10	●	2
MPS1-0950-L10C	9.5	10	169.7	96.7	125.7	128.7	168	1.7	10	□	2
MPS1-0950-L12C		12	188.7	115.7	144.7	147.7	187	1.7	10	●	2
MPS1-0950-L15C		15	216.7	144.2	172.7	175.7	215	1.7	10	●	2
MPS1-0950-L20C		20	264.7	191.7	220.7	223.7	263	1.7	10	●	2
MPS1-0950-L25C		25	311.7	239.2	267.7	270.7	310	1.7	10	●	2
MPS1-0950-L30C		30	359.7	286.7	315.7	318.7	358	1.7	10	●	2
MPS1-0950-L35C		35	405.7	334.2	362.7	364.7	404	1.7	10	□	2
MPS1-0960S-DIN		3	88.7	32.3	46.7	47.7	87	1.7	10	□	4
MPS1-0960S-DIN-C		3	88.7	32.3	46.7	47.7	87	1.7	10	●	2
MPS1-0960L-DIN		5	102.7	46.3	60.7	61.7	101	1.7	10	□	4
MPS1-0960L-DIN-C		5	102.7	46.3	60.7	61.7	101	1.7	10	●	2
MPS1-0960-PC		2	90.5	20.7	44.5	44.5	89	1.5	10	●	2
MPS1-0960-L8C		8	156.0	78.8	112.0	115.0	154	2.0	10	●	2
MPS1-0960-L10C	9.6	10	175.7	97.7	131.7	134.7	174	1.7	10	□	2
MPS1-0960-L12C		12	195.7	116.9	151.7	154.7	194	1.7	10	●	2
MPS1-0960-L15C		15	225.7	145.7	181.7	184.7	224	1.7	10	●	2
MPS1-0960-L20C		20	275.7	193.7	231.7	234.7	274	1.7	10	□	2
MPS1-0960-L25C		25	325.7	241.7	281.7	284.7	324	1.7	10	□	2
MPS1-0960-L30C		30	375.7	289.7	331.7	334.7	374	1.7	10	□	2
MPS1-0960-L35C		35	424.7	337.7	381.7	383.7	423	1.7	10	□	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-0970S-DIN		3	88.8	32.2	46.8	47.8	87	1.8	10	□	4
MPS1-0970S-DIN-C		3	88.8	32.2	46.8	47.8	87	1.8	10	●	2
MPS1-0970L-DIN		5	102.8	46.2	60.8	61.8	101	1.8	10	□	4
MPS1-0970L-DIN-C		5	102.8	46.2	60.8	61.8	101	1.8	10	●	2
MPS1-0970-PC		2	90.5	20.9	44.5	44.5	89	1.5	10	●	2
MPS1-0970-L8C		8	156.0	79.6	112.0	115.0	154	2.0	10	●	2
MPS1-0970-L10C	9.7	10	175.8	98.8	131.8	134.8	174	1.8	10	□	2
MPS1-0970-L12C		12	195.8	118.2	151.8	154.8	194	1.8	10	●	2
MPS1-0970-L15C		15	225.8	147.3	181.8	184.8	224	1.8	10	●	2
MPS1-0970-L20C		20	275.8	195.8	231.8	234.8	274	1.8	10	□	2
MPS1-0970-L25C		25	325.8	244.3	281.8	284.8	324	1.8	10	□	2
MPS1-0970-L30C		30	375.8	292.8	331.8	334.8	374	1.8	10	□	2
MPS1-0970-L35C		35	424.8	341.3	381.8	383.8	423	1.8	10	□	2
MPS1-0980S-DIN		3	88.8	32.1	46.8	47.8	87	1.8	10	□	4
MPS1-0980S-DIN-C		3	88.8	32.1	46.8	47.8	87	1.8	10	●	2
MPS1-0980L-DIN		5	102.8	46.1	60.8	61.8	101	1.8	10	□	4
MPS1-0980L-DIN-C		5	102.8	46.1	60.8	61.8	101	1.8	10	●	2
MPS1-0980-PC		2	90.5	21.1	44.5	44.5	89	1.5	10	●	2
MPS1-0980-L8C		8	156.0	80.4	112.0	115.0	154	2.0	10	●	2
MPS1-0980-L10C	9.8	10	175.8	99.8	131.8	134.8	174	1.8	10	□	2
MPS1-0980-L12C		12	195.8	119.4	151.8	154.8	194	1.8	10	●	2
MPS1-0980-L15C		15	225.8	148.8	181.8	184.8	224	1.8	10	●	2
MPS1-0980-L20C		20	275.8	197.8	231.8	234.8	274	1.8	10	●	2
MPS1-0980-L25C		25	325.8	246.8	281.8	284.8	324	1.8	10	□	2
MPS1-0980-L30C		30	375.8	295.8	331.8	334.8	374	1.8	10	●	2
MPS1-0980-L35C		35	424.8	344.8	381.8	383.8	423	1.8	10	□	2
MPS1-0990S-DIN		3	88.8	32.0	46.8	47.8	87	1.8	10	□	4
MPS1-0990S-DIN-C		3	88.8	32.0	46.8	47.8	87	1.8	10	●	2
MPS1-0990L-DIN		5	102.8	46.0	60.8	61.8	101	1.8	10	□	4
MPS1-0990L-DIN-C		5	102.8	46.0	60.8	61.8	101	1.8	10	●	2
MPS1-0990-PC		2	90.6	21.4	44.6	44.6	89	1.6	10	●	2
MPS1-0990-L8C		8	156.1	81.3	112.1	115.1	154	2.1	10	●	2
MPS1-0990-L10C	9.9	10	175.8	100.8	131.8	134.8	174	1.8	10	□	2
MPS1-0990-L12C		12	195.8	120.6	151.8	154.8	194	1.8	10	●	2
MPS1-0990-L15C		15	225.8	150.3	181.8	184.8	224	1.8	10	●	2
MPS1-0990-L20C		20	275.8	199.8	231.8	234.8	274	1.8	10	□	2
MPS1-0990-L25C		25	325.8	249.3	281.8	284.8	324	1.8	10	□	2
MPS1-0990-L30C		30	375.8	298.8	331.8	334.8	374	1.8	10	□	2
MPS1-0990-L35C		35	424.8	348.3	381.8	383.8	423	1.8	10	□	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-1000S-DIN		3	88.8	31.8	46.8	47.8	87	1.8	10	□	4
MPS1-1000S-DIN-C		3	88.8	31.8	46.8	47.8	87	1.8	10	●	2
MPS1-1000L-DIN		5	102.8	45.8	60.8	61.8	101	1.8	10	□	4
MPS1-1000L-DIN-C		5	102.8	45.8	60.8	61.8	101	1.8	10	●	2
MPS1-1000-PC		2	90.6	21.6	44.6	44.6	89	1.6	10	●	2
MPS1-1000-L8C		8	156.1	82.1	112.1	115.1	154	2.1	10	●	2
MPS1-1000-L10C	10.0	10	175.8	101.8	131.8	134.8	174	1.8	10	□	2
MPS1-1000-L12C		12	195.8	121.8	151.8	154.8	194	1.8	10	●	2
MPS1-1000-L15C		15	225.8	151.8	181.8	184.8	224	1.8	10	●	2
MPS1-1000-L20C		20	275.8	201.8	231.8	234.8	274	1.8	10	●	2
MPS1-1000-L25C		25	325.8	251.8	281.8	284.8	324	1.8	10	●	2
MPS1-1000-L30C		30	375.8	301.8	331.8	334.8	374	1.8	10	●	2
MPS1-1000-L35C		35	424.8	351.8	381.8	383.8	423	1.8	10	□	2
MPS1-1005S-DIN		3	101.8	39.8	54.8	55.8	100	1.8	12	□	4
MPS1-1005S-DIN-C		3	101.8	39.8	54.8	55.8	100	1.8	12	●	2
MPS1-1005L-DIN	10.05	5	117.8	55.8	70.8	71.8	116	1.8	12	□	4
MPS1-1005L-DIN-C		5	117.8	55.8	70.8	71.8	116	1.8	12	●	2
MPS1-1010S-DIN		3	101.8	39.7	54.8	55.8	100	1.8	12	□	4
MPS1-1010S-DIN-C		3	101.8	39.7	54.8	55.8	100	1.8	12	●	2
MPS1-1010L-DIN		5	117.8	55.7	70.8	71.8	116	1.8	12	□	4
MPS1-1010L-DIN-C		5	117.8	55.7	70.8	71.8	116	1.8	12	●	2
MPS1-1010-PC		2	96.6	21.8	44.6	47.6	95	1.6	12	●	2
MPS1-1010-L8C	10.1	8	167.1	82.9	118.1	121.1	165	2.1	12	●	2
MPS1-1010-L10C		10	187.8	102.8	138.8	141.8	186	1.8	12	□	2
MPS1-1010-L12C		12	208.8	123.0	159.8	162.8	207	1.8	12	●	2
MPS1-1010-L15C		15	239.8	153.3	190.8	193.8	238	1.8	12	●	2
MPS1-1010-L20C		20	292.8	203.8	243.8	246.8	291	1.8	12	●	2
MPS1-1010-L25C		25	344.8	254.3	295.8	298.8	343	1.8	12	□	2
MPS1-1020S-DIN		3	101.9	39.6	54.9	55.9	100	1.9	12	□	4
MPS1-1020S-DIN-C		3	101.9	39.6	54.9	55.9	100	1.9	12	●	2
MPS1-1020L-DIN		5	117.9	55.6	70.9	71.9	116	1.9	12	□	4
MPS1-1020L-DIN-C		5	117.9	55.6	70.9	71.9	116	1.9	12	●	2
MPS1-1020-PC		2	96.6	22.0	44.6	47.6	95	1.6	12	●	2
MPS1-1020-L8C	10.2	8	167.1	83.7	118.1	121.1	165	2.1	12	●	2
MPS1-1020-L10C		10	187.9	103.9	138.9	141.9	186	1.9	12	□	2
MPS1-1020-L12C		12	208.9	124.3	159.9	162.9	207	1.9	12	●	2
MPS1-1020-L15C		15	239.9	154.9	190.9	193.9	238	1.9	12	●	2
MPS1-1020-L20C		20	292.9	205.9	243.9	246.9	291	1.9	12	●	2
MPS1-1020-L25C		25	344.9	256.9	295.9	298.9	343	1.9	12	□	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-1030S-DIN		3	101.9	39.4	54.9	55.9	100	1.9	12	□	4
MPS1-1030S-DIN-C		3	101.9	39.4	54.9	55.9	100	1.9	12	●	2
MPS1-1030L-DIN		5	117.9	55.4	70.9	71.9	116	1.9	12	□	4
MPS1-1030L-DIN-C		5	117.9	55.4	70.9	71.9	116	1.9	12	●	2
MPS1-1030-PC		2	96.6	22.2	44.6	47.6	95	1.6	12	●	2
MPS1-1030-L8C	10.3	8	167.1	84.5	118.1	121.1	165	2.1	12	●	2
MPS1-1030-L10C		10	187.9	104.9	138.9	141.9	186	1.9	12	□	2
MPS1-1030-L12C		12	208.9	125.5	159.9	162.9	207	1.9	12	●	2
MPS1-1030-L15C		15	239.9	156.4	190.9	193.9	238	1.9	12	□	2
MPS1-1030-L20C		20	292.9	207.9	243.9	246.9	291	1.9	12	□	2
MPS1-1030-L25C		25	344.9	259.4	295.9	298.9	343	1.9	12	□	2
MPS1-1040S-DIN		3	101.9	39.3	54.9	55.9	100	1.9	12	□	4
MPS1-1040S-DIN-C		3	101.9	39.3	54.9	55.9	100	1.9	12	●	2
MPS1-1040L-DIN		5	117.9	55.3	70.9	71.9	116	1.9	12	□	4
MPS1-1040L-DIN-C		5	117.9	55.3	70.9	71.9	116	1.9	12	●	2
MPS1-1040-PC		2	96.6	22.4	44.6	47.6	95	1.6	12	●	2
MPS1-1040-L8C	10.4	8	167.2	85.4	118.2	121.2	165	2.2	12	●	2
MPS1-1040-L10C		10	187.9	105.9	138.9	141.9	186	1.9	12	□	2
MPS1-1040-L12C		12	208.9	126.7	159.9	162.9	207	1.9	12	●	2
MPS1-1040-L15C		15	239.9	157.9	190.9	193.9	238	1.9	12	□	2
MPS1-1040-L20C		20	292.9	209.9	243.9	246.9	291	1.9	12	□	2
MPS1-1040-L25C		25	344.9	261.9	295.9	298.9	343	1.9	12	□	2
MPS1-1050S-DIN		3	101.9	39.2	54.9	55.9	100	1.9	12	□	4
MPS1-1050S-DIN-C		3	101.9	39.2	54.9	55.9	100	1.9	12	●	2
MPS1-1050L-DIN		5	117.9	55.2	70.9	71.9	116	1.9	12	□	4
MPS1-1050L-DIN-C		5	117.9	55.2	70.9	71.9	116	1.9	12	●	2
MPS1-1050-PC		2	96.7	22.7	44.7	47.7	95	1.7	12	●	2
MPS1-1050-L8C	10.5	8	167.2	86.2	118.2	121.2	165	2.2	12	●	2
MPS1-1050-L10C		10	187.9	106.9	138.9	141.9	186	1.9	12	□	2
MPS1-1050-L12C		12	208.9	127.9	159.9	162.9	207	1.9	12	●	2
MPS1-1050-L15C		15	239.9	159.4	190.9	193.9	238	1.9	12	●	2
MPS1-1050-L20C		20	292.9	211.9	243.9	246.9	291	1.9	12	●	2
MPS1-1050-L25C		25	344.9	264.4	295.9	298.9	343	1.9	12	●	2
MPS1-1060S-DIN		3	101.9	39.0	54.9	55.9	100	1.9	12	□	4
MPS1-1060S-DIN-C		3	101.9	39.0	54.9	55.9	100	1.9	12	●	2
MPS1-1060L-DIN		5	117.9	55.0	70.9	71.9	116	1.9	12	□	4
MPS1-1060L-DIN-C		5	117.9	55.0	70.9	71.9	116	1.9	12	●	2
MPS1-1060-PC		2	96.7	22.9	48.7	49.7	95	1.7	12	□	2
MPS1-1060-L8C	10.6	8	172.2	87.0	123.2	126.2	170	2.2	12	●	2
MPS1-1060-L10C		10	193.9	107.9	144.9	147.9	192	1.9	12	□	2
MPS1-1060-L12C		12	215.9	129.1	166.9	169.9	214	1.9	12	□	2
MPS1-1060-L15C		15	248.9	160.9	199.9	202.9	247	1.9	12	□	2
MPS1-1060-L20C		20	303.9	213.9	254.9	257.9	302	1.9	12	□	2
MPS1-1060-L25C		25	358.9	266.9	309.9	312.9	357	1.9	12	□	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-1070S-DIN	10.7	3	101.9	38.9	54.9	55.9	100	1.9	12	□	4
MPS1-1070S-DIN-C		3	101.9	38.9	54.9	55.9	100	1.9	12	●	2
MPS1-1070L-DIN		5	117.9	54.9	70.9	71.9	116	1.9	12	□	4
MPS1-1070L-DIN-C		5	117.9	54.9	70.9	71.9	116	1.9	12	●	2
MPS1-1070-PC		2	96.7	23.1	48.7	49.7	95	1.7	12	●	2
MPS1-1070-L8C		8	172.2	87.8	123.2	126.2	170	2.2	12	●	2
MPS1-1070-L10C		10	193.9	108.9	144.9	147.9	192	1.9	12	□	2
MPS1-1070-L12C		12	215.9	130.3	166.9	169.9	214	1.9	12	●	2
MPS1-1070-L15C		15	248.9	162.4	199.9	202.9	247	1.9	12	□	2
MPS1-1070-L20C		20	303.9	215.9	254.9	257.9	302	1.9	12	□	2
MPS1-1070-L25C		25	358.9	269.4	309.9	312.9	357	1.9	12	□	2
MPS1-1080S-DIN		10.8	3	102.0	38.8	55.0	56.0	100	2.0	12	□
MPS1-1080S-DIN-C	3		102.0	38.8	55.0	56.0	100	2.0	12	●	2
MPS1-1080L-DIN	5		118.0	54.8	71.0	72.0	116	2.0	12	□	4
MPS1-1080L-DIN-C	5		118.0	54.8	71.0	72.0	116	2.0	12	●	2
MPS1-1080-PC	2		96.7	23.3	48.7	49.7	95	1.7	12	●	2
MPS1-1080-L8C	8		172.2	88.6	123.2	126.2	170	2.2	12	●	2
MPS1-1080-L10C	10		194.0	110.0	145.0	148.0	192	2.0	12	□	2
MPS1-1080-L12C	12		216.0	131.6	167.0	170.0	214	2.0	12	●	2
MPS1-1080-L15C	15		249.0	164.0	200.0	203.0	247	2.0	12	□	2
MPS1-1080-L20C	20		304.0	218.0	255.0	258.0	302	2.0	12	□	2
MPS1-1080-L25C	25		359.0	272.0	310.0	313.0	357	2.0	12	□	2
MPS1-1090S-DIN	10.9		3	102.0	38.6	55.0	56.0	100	2.0	12	□
MPS1-1090S-DIN-C		3	102.0	38.6	55.0	56.0	100	2.0	12	●	2
MPS1-1090L-DIN		5	118.0	54.6	71.0	72.0	116	2.0	12	□	4
MPS1-1090L-DIN-C		5	118.0	54.6	71.0	72.0	116	2.0	12	●	2
MPS1-1090-PC		2	96.7	23.5	48.7	49.7	95	1.7	12	□	2
MPS1-1090-L8C		8	172.3	89.5	123.3	126.3	170	2.3	12	●	2
MPS1-1090-L10C		10	194.0	111.0	145.0	148.0	192	2.0	12	□	2
MPS1-1090-L12C		12	216.0	132.8	167.0	170.0	214	2.0	12	□	2
MPS1-1090-L15C		15	249.0	165.5	200.0	203.0	247	2.0	12	□	2
MPS1-1090-L20C		20	304.0	220.0	255.0	258.0	302	2.0	12	□	2
MPS1-1090-L25C		25	359.0	274.5	310.0	313.0	357	2.0	12	□	2
MPS1-1100S-DIN		11.0	3	102.0	38.5	55.0	56.0	100	2.0	12	□
MPS1-1100S-DIN-C	3		102.0	38.5	55.0	56.0	100	2.0	12	●	2
MPS1-1100L-DIN	5		118.0	54.5	71.0	72.0	116	2.0	12	□	4
MPS1-1100L-DIN-C	5		118.0	54.5	71.0	72.0	116	2.0	12	●	2
MPS1-1100-PC	2		96.7	23.7	48.7	49.7	95	1.7	12	●	2
MPS1-1100-L8C	8		172.3	90.3	123.3	126.3	170	2.3	12	●	2
MPS1-1100-L10C	10		194.0	112.0	145.0	148.0	192	2.0	12	□	2
MPS1-1100-L12C	12		216.0	134.0	167.0	170.0	214	2.0	12	●	2
MPS1-1100-L15C	15		249.0	167.0	200.0	203.0	247	2.0	12	●	2
MPS1-1100-L20C	20		304.0	222.0	255.0	258.0	302	2.0	12	●	2
MPS1-1100-L25C	25		359.0	277.0	310.0	313.0	357	2.0	12	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-1110S-DIN		3	102.0	38.4	55.0	56.0	100	2.0	12	□	4
MPS1-1110S-DIN-C		3	102.0	38.4	55.0	56.0	100	2.0	12	●	2
MPS1-1110L-DIN		5	118.0	54.4	71.0	72.0	116	2.0	12	□	4
MPS1-1110L-DIN-C		5	118.0	54.4	71.0	72.0	116	2.0	12	●	2
MPS1-1110-PC		2	96.7	23.9	48.7	51.7	95	1.7	12	●	2
MPS1-1110-L8C	11.1	8	178.3	91.1	129.3	132.3	176	2.3	12	●	2
MPS1-1110-L10C		10	201.0	113.0	152.0	155.0	199	2.0	12	□	2
MPS1-1110-L12C		12	224.0	135.2	175.0	178.0	222	2.0	12	●	2
MPS1-1110-L15C		15	258.0	168.5	209.0	212.0	256	2.0	12	●	2
MPS1-1110-L20C		20	316.0	224.0	267.0	270.0	314	2.0	12	□	2
MPS1-1110-L25C		25	373.0	279.5	324.0	327.0	371	2.0	12	●	2
MPS1-1120S-DIN		3	102.0	38.2	55.0	56.0	100	2.0	12	□	4
MPS1-1120S-DIN-C		3	102.0	38.2	55.0	56.0	100	2.0	12	●	2
MPS1-1120L-DIN		5	118.0	54.2	71.0	72.0	116	2.0	12	□	4
MPS1-1120L-DIN-C		5	118.0	54.2	71.0	72.0	116	2.0	12	●	2
MPS1-1120-PC		2	96.8	24.2	48.8	51.8	95	1.8	12	●	2
MPS1-1120-L8C	11.2	8	178.3	91.9	129.3	132.3	176	2.3	12	●	2
MPS1-1120-L10C		10	201.0	114.0	152.0	155.0	199	2.0	12	□	2
MPS1-1120-L12C		12	224.0	136.4	175.0	178.0	222	2.0	12	□	2
MPS1-1120-L15C		15	258.0	170.0	209.0	212.0	256	2.0	12	●	2
MPS1-1120-L20C		20	316.0	226.0	267.0	270.0	314	2.0	12	□	2
MPS1-1120-L25C		25	373.0	282.0	324.0	327.0	371	2.0	12	□	2
MPS1-1130S-DIN		3	102.1	38.1	55.1	56.1	100	2.1	12	□	4
MPS1-1130S-DIN-C		3	102.1	38.1	55.1	56.1	100	2.1	12	●	2
MPS1-1130L-DIN		5	118.1	54.1	71.1	72.1	116	2.1	12	□	4
MPS1-1130L-DIN-C		5	118.1	54.1	71.1	72.1	116	2.1	12	●	2
MPS1-1130-PC		2	96.8	24.4	48.8	51.8	95	1.8	12	□	2
MPS1-1130-L8C	11.3	8	178.3	92.7	129.3	132.3	176	2.3	12	●	2
MPS1-1130-L10C		10	201.1	115.1	152.1	155.1	199	2.1	12	□	2
MPS1-1130-L12C		12	224.1	137.7	175.1	178.1	222	2.1	12	□	2
MPS1-1130-L15C		15	258.1	171.6	209.1	212.1	256	2.1	12	□	2
MPS1-1130-L20C		20	316.1	228.1	267.1	270.1	314	2.1	12	□	2
MPS1-1130-L25C		25	373.1	284.6	324.1	327.1	371	2.1	12	□	2
MPS1-1140S-DIN		3	102.1	38.0	55.1	56.1	100	2.1	12	□	4
MPS1-1140S-DIN-C		3	102.1	38.0	55.1	56.1	100	2.1	12	●	2
MPS1-1140L-DIN		5	118.1	54.0	71.1	72.1	116	2.1	12	□	4
MPS1-1140L-DIN-C		5	118.1	54.0	71.1	72.1	116	2.1	12	●	2
MPS1-1140-PC		2	96.8	24.6	48.8	51.8	95	1.8	12	□	2
MPS1-1140-L8C	11.4	8	178.4	93.6	129.4	132.4	176	2.4	12	●	2
MPS1-1140-L10C		10	201.1	116.1	152.1	155.1	199	2.1	12	□	2
MPS1-1140-L12C		12	224.1	138.9	175.1	178.1	222	2.1	12	□	2
MPS1-1140-L15C		15	258.1	173.1	209.1	212.1	256	2.1	12	□	2
MPS1-1140-L20C		20	316.1	230.1	267.1	270.1	314	2.1	12	□	2
MPS1-1140-L25C		25	373.1	287.1	324.1	327.1	371	2.1	12	□	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-1150S-DIN	11.5	3	102.1	37.8	55.1	56.1	100	2.1	12	□	4
MPS1-1150S-DIN-C		3	102.1	37.8	55.1	56.1	100	2.1	12	●	2
MPS1-1150L-DIN		5	118.1	53.8	71.1	72.1	116	2.1	12	□	4
MPS1-1150L-DIN-C		5	118.1	53.8	71.1	72.1	116	2.1	12	●	2
MPS1-1150-PC		2	96.8	24.8	48.8	51.8	95	1.8	12	●	2
MPS1-1150-L8C		8	178.4	94.4	129.4	132.4	176	2.4	12	●	2
MPS1-1150-L10C		10	201.1	117.1	152.1	155.1	199	2.1	12	□	2
MPS1-1150-L12C		12	224.1	140.1	175.1	178.1	222	2.1	12	●	2
MPS1-1150-L15C		15	258.1	174.6	209.1	212.1	256	2.1	12	●	2
MPS1-1150-L20C		20	316.1	232.1	267.1	270.1	314	2.1	12	●	2
MPS1-1150-L25C		25	373.1	289.6	324.1	327.1	371	2.1	12	●	2
MPS1-1160S-DIN	11.6	3	102.1	37.7	55.1	56.1	100	2.1	12	□	4
MPS1-1160S-DIN-C		3	102.1	37.7	55.1	56.1	100	2.1	12	●	2
MPS1-1160L-DIN		5	118.1	53.7	71.1	72.1	116	2.1	12	□	4
MPS1-1160L-DIN-C		5	118.1	53.7	71.1	72.1	116	2.1	12	●	2
MPS1-1160-PC		2	96.8	25.0	48.8	48.8	95	1.8	12	□	2
MPS1-1160-L8C		8	183.4	95.2	134.4	137.4	181	2.4	12	●	2
MPS1-1160-L10C		10	207.1	118.1	158.1	161.1	205	2.1	12	□	2
MPS1-1160-L12C		12	231.1	141.3	182.1	185.1	229	2.1	12	□	2
MPS1-1160-L15C		15	267.1	176.1	218.1	221.1	265	2.1	12	□	2
MPS1-1160-L20C		20	327.1	234.1	278.1	281.1	325	2.1	12	□	2
MPS1-1160-L25C		25	387.1	292.1	338.1	341.1	385	2.1	12	□	2
MPS1-1170S-DIN	11.7	3	102.1	37.6	55.1	56.1	100	2.1	12	□	4
MPS1-1170S-DIN-C		3	102.1	37.6	55.1	56.1	100	2.1	12	●	2
MPS1-1170L-DIN		5	118.1	53.6	71.1	72.1	116	2.1	12	□	4
MPS1-1170L-DIN-C		5	118.1	53.6	71.1	72.1	116	2.1	12	●	2
MPS1-1170-PC		2	96.8	25.2	48.8	48.8	95	1.8	12	●	2
MPS1-1170-L8C		8	183.4	96.0	134.4	137.4	181	2.4	12	●	2
MPS1-1170-L10C		10	207.1	119.1	158.1	161.1	205	2.1	12	□	2
MPS1-1170-L12C		12	231.1	142.5	182.1	185.1	229	2.1	12	●	2
MPS1-1170-L15C		15	267.1	177.6	218.1	221.1	265	2.1	12	●	2
MPS1-1170-L20C		20	327.1	236.1	278.1	281.1	325	2.1	12	□	2
MPS1-1170-L25C		25	387.1	294.6	338.1	341.1	385	2.1	12	□	2
MPS1-1180S-DIN	11.8	3	102.1	37.4	55.1	56.1	100	2.1	12	□	4
MPS1-1180S-DIN-C		3	102.1	37.4	55.1	56.1	100	2.1	12	●	2
MPS1-1180L-DIN		5	118.1	53.4	71.1	72.1	116	2.1	12	□	4
MPS1-1180L-DIN-C		5	118.1	53.4	71.1	72.1	116	2.1	12	●	2
MPS1-1180-PC		2	96.9	25.5	48.9	48.9	95	1.9	12	●	2
MPS1-1180-L8C		8	183.4	96.8	134.4	137.4	181	2.4	12	●	2
MPS1-1180-L10C		10	207.1	120.1	158.1	161.1	205	2.1	12	□	2
MPS1-1180-L12C		12	231.1	143.7	182.1	185.1	229	2.1	12	●	2
MPS1-1180-L15C		15	267.1	179.1	218.1	221.1	265	2.1	12	●	2
MPS1-1180-L20C		20	327.1	238.1	278.1	281.1	325	2.1	12	□	2
MPS1-1180-L25C		25	387.1	297.1	338.1	341.1	385	2.1	12	□	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo	
MPS1-1190S-DIN	11.9	3	102.2	37.3	55.2	56.2	100	2.2	12	□	4	
MPS1-1190S-DIN-C		3	102.2	37.3	55.2	56.2	100	2.2	12	●	2	
MPS1-1190L-DIN		5	118.2	53.3	71.2	72.2	116	2.2	12	□	4	
MPS1-1190L-DIN-C		5	118.2	53.3	71.2	72.2	116	2.2	12	●	2	
MPS1-1190-PC		2	96.9	25.7	48.9	48.9	95	1.9	12	□	2	
MPS1-1190-L8C		8	183.5	97.7	134.5	137.5	181	2.5	12	●	2	
MPS1-1190-L10C		10	207.2	121.2	158.2	161.2	205	2.2	12	□	2	
MPS1-1190-L12C		12	231.2	145.0	182.2	185.2	229	2.2	12	□	2	
MPS1-1190-L15C		15	267.2	180.7	218.2	221.2	265	2.2	12	□	2	
MPS1-1190-L20C		20	327.2	240.2	278.2	281.2	325	2.2	12	□	2	
MPS1-1190-L25C		25	387.2	299.7	338.2	341.2	385	2.2	12	□	2	
MPS1-1200S-DIN		12.0	3	102.2	37.2	55.2	56.2	100	2.2	12	□	4
MPS1-1200S-DIN-C	3		102.2	37.2	55.2	56.2	100	2.2	12	●	2	
MPS1-1200L-DIN	5		118.2	53.2	71.2	72.2	116	2.2	12	□	4	
MPS1-1200L-DIN-C	5		118.2	53.2	71.2	72.2	116	2.2	12	●	2	
MPS1-1200-PC	2		96.9	25.9	48.9	48.9	95	1.9	12	●	2	
MPS1-1200-L8C	8		183.5	98.5	134.5	137.5	181	2.5	12	●	2	
MPS1-1200-L10C	10		207.2	122.2	158.2	161.2	205	2.2	12	□	2	
MPS1-1200-L12C	12		231.2	146.2	182.2	185.2	229	2.2	12	●	2	
MPS1-1200-L15C	15		267.2	182.2	218.2	221.2	265	2.2	12	●	2	
MPS1-1200-L20C	20		327.2	242.2	278.2	281.2	325	2.2	12	●	2	
MPS1-1200-L25C	25		387.2	302.2	338.2	341.2	385	2.2	12	●	2	
MPS1-1205S-DIN	12.05		3	107.2	42.1	60.2	61.2	105	2.2	14	□	4
MPS1-1205S-DIN-C		3	107.2	42.1	60.2	61.2	105	2.2	14	●	2	
MPS1-1205L-DIN		5	124.2	59.1	77.2	78.2	122	2.2	14	□	4	
MPS1-1205L-DIN-C		5	124.2	59.1	77.2	78.2	122	2.2	14	●	2	
MPS1-1210S-DIN	12.1	3	107.2	42.1	60.2	61.2	105	2.2	14	□	4	
MPS1-1210S-DIN-C		3	107.2	42.1	60.2	61.2	105	2.2	14	●	2	
MPS1-1210L-DIN		5	124.2	59.1	77.2	78.2	122	2.2	14	□	4	
MPS1-1210L-DIN-C		5	124.2	59.1	77.2	78.2	122	2.2	14	●	2	
MPS1-1210-PC		2	103.9	26.1	52.9	55.9	102	1.9	14	●	2	
MPS1-1210-L8C		8	189.5	99.3	140.5	143.5	187	2.5	14	●	2	
MPS1-1210-L10C		10	214.2	123.2	165.2	168.2	212	2.2	14	□	2	
MPS1-1210-L12C		12	239.2	147.4	190.2	193.2	237	2.2	14	●	2	
MPS1-1210-L15C		15	276.2	183.7	227.2	230.2	274	2.2	14	●	2	
MPS1-1210-L20C		20	339.2	244.2	290.2	293.2	337	2.2	14	□	2	
MPS1-1220S-DIN		12.2	3	107.2	41.9	60.2	61.2	105	2.2	14	□	4
MPS1-1220S-DIN-C			3	107.2	41.9	60.2	61.2	105	2.2	14	●	2
MPS1-1220L-DIN	5		124.2	58.9	77.2	78.2	122	2.2	14	□	4	
MPS1-1220L-DIN-C	5		124.2	58.9	77.2	78.2	122	2.2	14	●	2	
MPS1-1220-PC	2		103.9	26.3	52.9	55.9	102	1.9	14	●	2	
MPS1-1220-L8C	8		189.5	100.1	140.5	143.5	187	2.5	14	●	2	
MPS1-1220-L10C	10		214.2	124.2	165.2	168.2	212	2.2	14	□	2	
MPS1-1220-L12C	12		239.2	148.6	190.2	193.2	237	2.2	14	●	2	
MPS1-1220-L15C	15		276.2	185.2	227.2	230.2	274	2.2	14	●	2	
MPS1-1220-L20C	20		339.2	246.2	290.2	293.2	337	2.2	14	□	2	

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-1230S-DIN	12.3	3	107.2	41.8	60.2	61.2	105	2.2	14	□	4
MPS1-1230S-DIN-C		3	107.2	41.8	60.2	61.2	105	2.2	14	●	2
MPS1-1230L-DIN		5	124.2	58.8	77.2	78.2	122	2.2	14	□	4
MPS1-1230L-DIN-C		5	124.2	58.8	77.2	78.2	122	2.2	14	●	2
MPS1-1230-PC		2	103.9	26.5	52.9	55.9	102	1.9	14	□	2
MPS1-1230-L8C		8	189.5	100.9	140.5	143.5	187	2.5	14	●	2
MPS1-1230-L10C		10	214.2	125.2	165.2	168.2	212	2.2	14	□	2
MPS1-1230-L12C		12	239.2	149.8	190.2	193.2	237	2.2	14	□	2
MPS1-1230-L15C		15	276.2	186.7	227.2	230.2	274	2.2	14	□	2
MPS1-1230-L20C		20	339.2	248.2	290.2	293.2	337	2.2	14	□	2
MPS1-1240S-DIN	12.4	3	107.3	41.7	60.3	61.3	105	2.3	14	□	4
MPS1-1240S-DIN-C		3	107.3	41.7	60.3	61.3	105	2.3	14	●	2
MPS1-1240L-DIN		5	124.3	58.7	77.3	78.3	122	2.3	14	□	4
MPS1-1240L-DIN-C		5	124.3	58.7	77.3	78.3	122	2.3	14	●	2
MPS1-1240-PC		2	104.0	26.8	53.0	56.0	102	2.0	14	□	2
MPS1-1240-L8C		8	189.6	101.8	140.6	143.6	187	2.6	14	●	2
MPS1-1240-L10C		10	214.3	126.3	165.3	168.3	212	2.3	14	□	2
MPS1-1240-L12C		12	239.3	151.1	190.3	193.3	237	2.3	14	□	2
MPS1-1240-L15C		15	276.3	188.3	227.3	230.3	274	2.3	14	□	2
MPS1-1240-L20C		20	339.3	250.3	290.3	293.3	337	2.3	14	□	2
MPS1-1250S-DIN	12.5	3	107.3	41.5	60.3	61.3	105	2.3	14	□	4
MPS1-1250S-DIN-C		3	107.3	41.5	60.3	61.3	105	2.3	14	●	2
MPS1-1250L-DIN		5	124.3	58.5	77.3	78.3	122	2.3	14	□	4
MPS1-1250L-DIN-C		5	124.3	58.5	77.3	78.3	122	2.3	14	●	2
MPS1-1250-PC		2	104.0	27.0	53.0	56.0	102	2.0	14	●	2
MPS1-1250-L8C		8	189.6	102.6	140.6	143.6	187	2.6	14	●	2
MPS1-1250-L10C		10	214.3	127.3	165.3	168.3	212	2.3	14	□	2
MPS1-1250-L12C		12	239.3	152.3	190.3	193.3	237	2.3	14	●	2
MPS1-1250-L15C		15	276.3	189.8	227.3	230.3	274	2.3	14	●	2
MPS1-1250-L20C		20	339.3	252.3	290.3	293.3	337	2.3	14	□	2
MPS1-1260S-DIN	12.6	3	107.3	41.4	60.3	61.3	105	2.3	14	□	4
MPS1-1260S-DIN-C		3	107.3	41.4	60.3	61.3	105	2.3	14	●	2
MPS1-1260L-DIN		5	124.3	58.4	77.3	78.3	122	2.3	14	□	4
MPS1-1260L-DIN-C		5	124.3	58.4	77.3	78.3	122	2.3	14	●	2
MPS1-1260-PC		2	104.0	27.2	53.0	55.0	102	2.0	14	□	2
MPS1-1260-L8C		8	194.6	103.4	145.6	148.6	192	2.6	14	●	2
MPS1-1260-L10C		10	220.3	128.3	171.3	174.3	218	2.3	14	□	2
MPS1-1260-L12C		12	246.3	153.5	197.3	200.3	244	2.3	14	□	2
MPS1-1260-L15C		15	285.3	191.3	236.3	239.3	283	2.3	14	□	2
MPS1-1260-L20C		20	350.3	254.3	301.3	304.3	348	2.3	14	□	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-1270S-DIN	12.7	3	107.3	41.3	60.3	61.3	105	2.3	14	□	4
MPS1-1270S-DIN-C		3	107.3	41.3	60.3	61.3	105	2.3	14	●	2
MPS1-1270L-DIN		5	124.3	58.3	77.3	78.3	122	2.3	14	□	4
MPS1-1270L-DIN-C		5	124.3	58.3	77.3	78.3	122	2.3	14	●	2
MPS1-1270-PC		2	104.0	27.4	53.0	55.0	102	2.0	14	●	2
MPS1-1270-L8C		8	194.6	104.2	145.6	148.6	192	2.6	14	●	2
MPS1-1270-L10C		10	220.3	129.3	171.3	174.3	218	2.3	14	□	2
MPS1-1270-L12C		12	246.3	154.7	197.3	200.3	244	2.3	14	●	2
MPS1-1270-L15C		15	285.3	192.8	236.3	239.3	283	2.3	14	□	2
MPS1-1270-L20C		20	350.3	256.3	301.3	304.3	348	2.3	14	□	2
MPS1-1280S-DIN	12.8	3	107.3	41.1	60.3	61.3	105	2.3	14	□	4
MPS1-1280S-DIN-C		3	107.3	41.1	60.3	61.3	105	2.3	14	●	2
MPS1-1280L-DIN		5	124.3	58.1	77.3	78.3	122	2.3	14	□	4
MPS1-1280L-DIN-C		5	124.3	58.1	77.3	78.3	122	2.3	14	●	2
MPS1-1280-PC		2	104.0	27.6	53.0	55.0	102	2.0	14	●	2
MPS1-1280-L8C		8	194.7	105.1	145.7	148.7	192	2.7	14	●	2
MPS1-1280-L10C		10	220.3	130.3	171.3	174.3	218	2.3	14	□	2
MPS1-1280-L12C		12	246.3	155.9	197.3	200.3	244	2.3	14	●	2
MPS1-1280-L15C		15	285.3	194.3	236.3	239.3	283	2.3	14	□	2
MPS1-1280-L20C		20	350.3	258.3	301.3	304.3	348	2.3	14	□	2
MPS1-1290S-DIN	12.9	3	107.3	41.0	60.3	61.3	105	2.3	14	□	4
MPS1-1290S-DIN-C		3	107.3	41.0	60.3	61.3	105	2.3	14	●	2
MPS1-1290L-DIN		5	124.3	58.0	77.3	78.3	122	2.3	14	□	4
MPS1-1290L-DIN-C		5	124.3	58.0	77.3	78.3	122	2.3	14	●	2
MPS1-1290-PC		2	104.0	27.8	53.0	55.0	102	2.0	14	□	2
MPS1-1290-L8C		8	194.7	105.9	145.7	148.7	192	2.7	14	●	2
MPS1-1290-L10C		10	220.3	131.3	171.3	174.3	218	2.3	14	□	2
MPS1-1290-L12C		12	246.3	157.1	197.3	200.3	244	2.3	14	□	2
MPS1-1290-L15C		15	285.3	195.8	236.3	239.3	283	2.3	14	□	2
MPS1-1290-L20C		20	350.3	260.3	301.3	304.3	348	2.3	14	□	2
MPS1-1300S-DIN	13.0	3	107.4	40.9	60.4	61.4	105	2.4	14	□	4
MPS1-1300S-DIN-C		3	107.4	40.9	60.4	61.4	105	2.4	14	●	2
MPS1-1300L-DIN		5	124.4	57.9	77.4	78.4	122	2.4	14	□	4
MPS1-1300L-DIN-C		5	124.4	57.9	77.4	78.4	122	2.4	14	●	2
MPS1-1300-PC		2	104.0	28.0	53.0	55.0	102	2.0	14	●	2
MPS1-1300-L8C		8	194.7	106.7	145.7	148.7	192	2.7	14	●	2
MPS1-1300-L10C		10	220.4	132.4	171.4	174.4	218	2.4	14	□	2
MPS1-1300-L12C		12	246.4	158.4	197.4	200.4	244	2.4	14	●	2
MPS1-1300-L15C		15	285.4	197.4	236.4	239.4	283	2.4	14	●	2
MPS1-1300-L20C		20	350.4	262.4	301.4	304.4	348	2.4	14	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-1310S-DIN	13.1	3	107.4	40.7	60.4	61.4	105	2.4	14	□	4
MPS1-1310S-DIN-C		3	107.4	40.7	60.4	61.4	105	2.4	14	●	2
MPS1-1310L-DIN		5	124.4	57.7	77.4	78.4	122	2.4	14	□	4
MPS1-1310L-DIN-C		5	124.4	57.7	77.4	78.4	122	2.4	14	●	2
MPS1-1310-PC		2	109.1	28.3	56.1	59.1	107	2.1	14	□	2
MPS1-1310-L8C		8	200.7	107.5	151.7	154.7	198	2.7	14	●	2
MPS1-1310-L10C		10	227.4	133.4	178.4	181.4	225	2.4	14	□	2
MPS1-1310-L12C		12	254.4	159.6	205.4	208.4	252	2.4	14	□	2
MPS1-1310-L15C		15	294.4	198.9	245.4	248.4	292	2.4	14	□	2
MPS1-1310-L20C		20	362.4	264.4	313.4	316.4	360	2.4	14	□	2
MPS1-1320S-DIN	13.2	3	107.4	40.6	60.4	61.4	105	2.4	14	□	4
MPS1-1320S-DIN-C		3	107.4	40.6	60.4	61.4	105	2.4	14	●	2
MPS1-1320L-DIN		5	124.4	57.6	77.4	78.4	122	2.4	14	□	4
MPS1-1320L-DIN-C		5	124.4	57.6	77.4	78.4	122	2.4	14	●	2
MPS1-1320-PC		2	109.1	28.5	56.1	59.1	107	2.1	14	●	2
MPS1-1320-L8C		8	200.7	108.3	151.7	154.7	198	2.7	14	●	2
MPS1-1320-L10C		10	227.4	134.4	178.4	181.4	225	2.4	14	□	2
MPS1-1320-L12C		12	254.4	160.8	205.4	208.4	252	2.4	14	●	2
MPS1-1320-L15C		15	294.4	200.4	245.4	248.4	292	2.4	14	□	2
MPS1-1320-L20C		20	362.4	266.4	313.4	316.4	360	2.4	14	□	2
MPS1-1330S-DIN	13.3	3	107.4	40.5	60.4	61.4	105	2.4	14	□	4
MPS1-1330S-DIN-C		3	107.4	40.5	60.4	61.4	105	2.4	14	●	2
MPS1-1330L-DIN		5	124.4	57.5	77.4	78.4	122	2.4	14	□	4
MPS1-1330L-DIN-C		5	124.4	57.5	77.4	78.4	122	2.4	14	●	2
MPS1-1330-PC		2	109.1	28.7	56.1	59.1	107	2.1	14	□	2
MPS1-1330-L8C		8	200.8	109.2	151.8	154.8	198	2.8	14	●	2
MPS1-1330-L10C		10	227.4	135.4	178.4	181.4	225	2.4	14	□	2
MPS1-1330-L12C		12	254.4	162.0	205.4	208.4	252	2.4	14	□	2
MPS1-1330-L15C		15	294.4	201.9	245.4	248.4	292	2.4	14	□	2
MPS1-1330-L20C		20	362.4	268.4	313.4	316.4	360	2.4	14	□	2
MPS1-1340S-DIN	13.4	3	107.4	40.3	60.4	61.4	105	2.4	14	□	4
MPS1-1340S-DIN-C		3	107.4	40.3	60.4	61.4	105	2.4	14	●	2
MPS1-1340L-DIN		5	124.4	57.3	77.4	78.4	122	2.4	14	□	4
MPS1-1340L-DIN-C		5	124.4	57.3	77.4	78.4	122	2.4	14	●	2
MPS1-1340-PC		2	109.1	28.9	56.1	59.1	107	2.1	14	□	2
MPS1-1340-L8C		8	200.8	110.0	151.8	154.8	198	2.8	14	●	2
MPS1-1340-L10C		10	227.4	136.4	178.4	181.4	225	2.4	14	□	2
MPS1-1340-L12C		12	254.4	163.2	205.4	208.4	252	2.4	14	□	2
MPS1-1340-L15C		15	294.4	203.4	245.4	248.4	292	2.4	14	□	2
MPS1-1340-L20C		20	362.4	270.4	313.4	316.4	360	2.4	14	□	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-1350S-DIN	13.5	3	107.5	40.2	60.5	61.5	105	2.5	14	□	4
MPS1-1350S-DIN-C		3	107.5	40.2	60.5	61.5	105	2.5	14	●	2
MPS1-1350L-DIN		5	124.5	57.2	77.5	78.5	122	2.5	14	□	4
MPS1-1350L-DIN-C		5	124.5	57.2	77.5	78.5	122	2.5	14	●	2
MPS1-1350-PC		2	109.1	29.1	56.1	59.1	107	2.1	14	●	2
MPS1-1350-L8C		8	200.8	110.8	151.8	154.8	198	2.8	14	●	2
MPS1-1350-L10C		10	227.5	137.5	178.5	181.5	225	2.5	14	□	2
MPS1-1350-L12C		12	254.5	164.5	205.5	208.5	252	2.5	14	●	2
MPS1-1350-L15C		15	294.5	205.0	245.5	248.5	292	2.5	14	□	2
MPS1-1350-L20C		20	362.5	272.5	313.5	316.5	360	2.5	14	□	2
MPS1-1360S-DIN	13.6	3	107.5	40.1	60.5	61.5	105	2.5	14	□	4
MPS1-1360S-DIN-C		3	107.5	40.1	60.5	61.5	105	2.5	14	●	2
MPS1-1360L-DIN		5	124.5	57.1	77.5	78.5	122	2.5	14	□	4
MPS1-1360L-DIN-C		5	124.5	57.1	77.5	78.5	122	2.5	14	●	2
MPS1-1360-PC		2	109.1	29.3	56.1	56.1	107	2.1	14	□	2
MPS1-1360-L8C		8	205.8	111.6	156.8	159.8	203	2.8	14	●	2
MPS1-1360-L10C		10	233.5	138.5	184.5	187.5	231	2.5	14	□	2
MPS1-1360-L12C		12	261.5	165.7	212.5	215.5	259	2.5	14	□	2
MPS1-1360-L15C		15	303.5	206.5	254.5	257.5	301	2.5	14	□	2
MPS1-1360-L20C		20	373.5	274.5	324.5	327.5	371	2.5	14	□	2
MPS1-1370S-DIN	13.7	3	107.5	39.9	60.5	61.5	105	2.5	14	□	4
MPS1-1370S-DIN-C		3	107.5	39.9	60.5	61.5	105	2.5	14	●	2
MPS1-1370L-DIN		5	124.5	56.9	77.5	78.5	122	2.5	14	□	4
MPS1-1370L-DIN-C		5	124.5	56.9	77.5	78.5	122	2.5	14	●	2
MPS1-1370-PC		2	109.2	29.6	56.2	56.2	107	2.2	14	□	2
MPS1-1370-L8C		8	205.8	112.4	156.8	159.8	203	2.8	14	●	2
MPS1-1370-L10C		10	233.5	139.5	184.5	187.5	231	2.5	14	□	2
MPS1-1370-L12C		12	261.5	166.9	212.5	215.5	259	2.5	14	□	2
MPS1-1370-L15C		15	303.5	208.0	254.5	257.5	301	2.5	14	□	2
MPS1-1370-L20C		20	373.5	276.5	324.5	327.5	371	2.5	14	□	2
MPS1-1380S-DIN	13.8	3	107.5	39.8	60.5	61.5	105	2.5	14	□	4
MPS1-1380S-DIN-C		3	107.5	39.8	60.5	61.5	105	2.5	14	●	2
MPS1-1380L-DIN		5	124.5	56.8	77.5	78.5	122	2.5	14	□	4
MPS1-1380L-DIN-C		5	124.5	56.8	77.5	78.5	122	2.5	14	●	2
MPS1-1380-PC		2	109.2	29.8	56.2	56.2	107	2.2	14	□	2
MPS1-1380-L8C		8	205.9	113.3	156.9	159.9	203	2.9	14	●	2
MPS1-1380-L10C		10	233.5	140.5	184.5	187.5	231	2.5	14	□	2
MPS1-1380-L12C		12	261.5	168.1	212.5	215.5	259	2.5	14	□	2
MPS1-1380-L15C		15	303.5	209.5	254.5	257.5	301	2.5	14	□	2
MPS1-1380-L20C		20	373.5	278.5	324.5	327.5	371	2.5	14	□	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-1390S-DIN	13.9	3	107.5	39.7	60.5	61.5	105	2.5	14	□	4
MPS1-1390S-DIN-C		3	107.5	39.7	60.5	61.5	105	2.5	14	●	2
MPS1-1390L-DIN		5	124.5	56.7	77.5	78.5	122	2.5	14	□	4
MPS1-1390L-DIN-C		5	124.5	56.7	77.5	78.5	122	2.5	14	●	2
MPS1-1390-PC		2	109.2	30.0	56.2	56.2	107	2.2	14	□	2
MPS1-1390-L8C		8	205.9	114.1	156.9	159.9	203	2.9	14	●	2
MPS1-1390-L10C		10	233.5	141.5	184.5	187.5	231	2.5	14	□	2
MPS1-1390-L12C		12	261.5	169.3	212.5	215.5	259	2.5	14	□	2
MPS1-1390-L15C		15	303.5	211.0	254.5	257.5	301	2.5	14	□	2
MPS1-1390-L20C		20	373.5	280.5	324.5	327.5	371	2.5	14	□	2
MPS1-1400S-DIN	14.0	3	107.5	39.5	60.5	61.5	105	2.5	14	□	4
MPS1-1400S-DIN-C		3	107.5	39.5	60.5	61.5	105	2.5	14	●	2
MPS1-1400L-DIN		5	124.5	56.5	77.5	78.5	122	2.5	14	□	4
MPS1-1400L-DIN-C		5	124.5	56.5	77.5	78.5	122	2.5	14	●	2
MPS1-1400-PC		2	109.2	30.2	56.2	56.2	107	2.2	14	●	2
MPS1-1400-L8C		8	205.9	114.9	156.9	159.9	203	2.9	14	●	2
MPS1-1400-L10C		10	233.5	142.5	184.5	187.5	231	2.5	14	□	2
MPS1-1400-L12C		12	261.5	170.5	212.5	215.5	259	2.5	14	●	2
MPS1-1400-L15C		15	303.5	212.5	254.5	257.5	301	2.5	14	●	2
MPS1-1400-L20C		20	373.5	282.5	324.5	327.5	371	2.5	14	●	2
MPS1-1420S-DIN	14.2	3	114.6	43.3	64.6	65.6	112	2.6	16	□	4
MPS1-1420S-DIN-C		3	114.6	43.3	64.6	65.6	112	2.6	16	●	2
MPS1-1420L-DIN		5	132.6	61.3	82.6	83.6	130	2.6	16	□	4
MPS1-1420L-DIN-C		5	132.6	61.3	82.6	83.6	130	2.6	16	●	2
MPS1-1450S-DIN	14.5	3	114.6	42.9	64.6	65.6	112	2.6	16	□	4
MPS1-1450S-DIN-C		3	114.6	42.9	64.6	65.6	112	2.6	16	●	2
MPS1-1450L-DIN		5	132.6	60.9	82.6	83.6	130	2.6	16	□	4
MPS1-1450L-DIN-C		5	132.6	60.9	82.6	83.6	130	2.6	16	●	2
MPS1-1500S-DIN	15.0	3	114.7	42.2	64.7	65.7	112	2.7	16	□	4
MPS1-1500S-DIN-C		3	114.7	42.2	64.7	65.7	112	2.7	16	●	2
MPS1-1500L-DIN		5	132.7	60.2	82.7	83.7	130	2.7	16	□	4
MPS1-1500L-DIN-C		5	132.7	60.2	82.7	83.7	130	2.7	16	●	2
MPS1-1550S-DIN	15.5	3	114.8	41.6	64.8	65.8	112	2.8	16	□	4
MPS1-1550S-DIN-C		3	114.8	41.6	64.8	65.8	112	2.8	16	●	2
MPS1-1550L-DIN		5	132.8	59.6	82.8	83.8	130	2.8	16	□	4
MPS1-1550L-DIN-C	5	132.8	59.6	82.8	83.8	130	2.8	16	●	2	
MPS1-1600S-DIN	16.0	3	114.9	40.9	64.9	65.9	112	2.9	16	□	4
MPS1-1600S-DIN-C		3	114.9	40.9	64.9	65.9	112	2.9	16	●	2
MPS1-1600L-DIN		5	132.9	58.9	82.9	83.9	130	2.9	16	□	4
MPS1-1600L-DIN-C		5	132.9	58.9	82.9	83.9	130	2.9	16	●	2
MPS1-1650S-DIN	16.5	3	123.0	48.3	73.0	74.0	120	3.0	18	□	4
MPS1-1650S-DIN-C		3	123.0	48.3	73.0	74.0	120	3.0	18	●	2
MPS1-1650L-DIN		5	143.0	68.3	93.0	94.0	140	3.0	18	□	4
MPS1-1650L-DIN-C		5	143.0	68.3	93.0	94.0	140	3.0	18	●	2
MPS1-1700S-DIN	17.0	3	123.1	47.6	73.1	74.1	120	3.1	18	□	4
MPS1-1700S-DIN-C		3	123.1	47.6	73.1	74.1	120	3.1	18	●	2
MPS1-1700L-DIN		5	143.1	67.6	93.1	94.1	140	3.1	18	□	4
MPS1-1700L-DIN-C		5	143.1	67.6	93.1	94.1	140	3.1	18	●	2

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MPS1

BROCA DE METAL DURO

Referencia	DC	(l/d)	OAL	LU	LCF	LH	LF	PL	DCON	DP1021	Tipo
MPS1-1750S-DIN	17.5	3	123.2	46.9	73.2	74.2	120	3.2	18	□	4
MPS1-1750S-DIN-C		3	123.2	46.9	73.2	74.2	120	3.2	18	●	2
MPS1-1750L-DIN		5	143.2	66.9	93.2	94.2	140	3.2	18	□	4
MPS1-1750L-DIN-C		5	143.2	66.9	93.2	94.2	140	3.2	18	●	2
MPS1-1800S-DIN	18.0	3	123.3	46.3	73.3	74.3	120	3.3	18	□	4
MPS1-1800S-DIN-C		3	123.3	46.3	73.3	74.3	120	3.3	18	●	2
MPS1-1800L-DIN		5	143.3	66.3	93.3	94.3	140	3.3	18	□	4
MPS1-1800L-DIN-C		5	143.3	66.3	93.3	94.3	140	3.3	18	●	2
MPS1-1850S-DIN	18.5	3	131.4	51.6	79.4	80.4	128	3.4	20	□	4
MPS1-1850S-DIN-C		3	131.4	51.6	79.4	80.4	128	3.4	20	●	2
MPS1-1850L-DIN		5	153.4	73.6	101.4	102.4	150	3.4	20	□	4
MPS1-1850L-DIN-C		5	153.4	73.6	101.4	102.4	150	3.4	20	●	2
MPS1-1900S-DIN	19.0	3	131.5	51.0	79.5	80.5	128	3.5	20	□	4
MPS1-1900S-DIN-C		3	131.5	51.0	79.5	80.5	128	3.5	20	●	2
MPS1-1900L-DIN		5	153.5	73.0	101.5	102.5	150	3.5	20	□	4
MPS1-1900L-DIN-C		5	153.5	73.0	101.5	102.5	150	3.5	20	●	2
MPS1-1950S-DIN	19.5	3	131.5	50.3	79.5	80.5	128	3.5	20	□	4
MPS1-1950S-DIN-C		3	131.5	50.3	79.5	80.5	128	3.5	20	●	2
MPS1-1950L-DIN		5	153.5	72.3	101.5	102.5	150	3.5	20	□	4
MPS1-1950L-DIN-C		5	153.5	72.3	101.5	102.5	150	3.5	20	●	2
MPS1-2000S-DIN	20.0	3	131.6	49.6	79.6	80.6	128	3.6	20	□	4
MPS1-2000S-DIN-C		3	131.6	49.6	79.6	80.6	128	3.6	20	●	2
MPS1-2000L-DIN		5	153.6	71.6	101.6	102.6	150	3.6	20	□	4
MPS1-2000L-DIN-C		5	153.6	71.6	101.6	102.6	150	3.6	20	●	2

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MPS1

CONDICIONES DE CORTE RECOMENDADAS

Material de trabajo	Propiedades	DC	L x DC	Vc	f
Acero	<180HB	3	3-8	100 (60-150)	0.15 (0.10-0.20)
			10-25	90 (40-110)	0.17 (0.10-0.24)
			30-40	75 (40- 95)	0.14 (0.08-0.19)
		4	3-8	120 (70-170)	0.19 (0.12-0.25)
			10-25	90 (40-110)	0.20 (0.12-0.30)
			30-40	75 (40- 95)	0.16 (0.10-0.24)
		5	3-8	130 (80-190)	0.23 (0.15-0.30)
			10-25	90 (40-110)	0.25 (0.15-0.35)
			30-40	75 (40- 95)	0.20 (0.12-0.28)
		6	3-8	140 (90-210)	0.27 (0.18-0.35)
			10-25	110 (70-120)	0.27 (0.17-0.37)
			30-40	90 (40-110)	0.22 (0.14-0.30)
		8	3-8	160 (100-240)	0.30 (0.20-0.40)
			10-25	110 (70-120)	0.30 (0.20-0.40)
			30-40	90 (40-110)	0.24 (0.16-0.32)
		10	3-8	170 (100-250)	0.33 (0.20-0.45)
			10-25	110 (70-120)	0.32 (0.22-0.42)
			30-40	90 (40-110)	0.26 (0.18-0.34)
		12	3-8	180 (100-250)	0.35 (0.20-0.50)
			10-25	130 (90-150)	0.34 (0.24-0.44)
30-40	105 (55-125)		0.27 (0.19-0.35)		
16	3-8	180 (100-250)	0.38 (0.20-0.55)		
	10-25	130 (90-150)	0.36 (0.26-0.46)		
20	3-8	180 (100-250)	0.40 (0.20-0.60)		
Acero al carbono, Acero aleado	180-250HB	3	3-8	90 (60-140)	0.15 (0.10-0.19)
			10-25	90 (40-110)	0.17 (0.10-0.24)
			30-40	75 (40- 85)	0.14 (0.08-0.19)
		4	3-8	100 (70-160)	0.18 (0.12-0.24)
			10-25	90 (40-110)	0.20 (0.12-0.30)
			30-40	75 (40- 85)	0.16 (0.10-0.24)
		5	3-8	110 (80-180)	0.22 (0.15-0.29)
			10-25	90 (40-110)	0.25 (0.15-0.35)
			30-40	75 (40- 85)	0.20 (0.12-0.28)
		6	3-8	120 (90-190)	0.26 (0.18-0.33)
			10-25	100 (60-110)	0.24 (0.15-0.33)
			30-40	80 (40- 90)	0.22 (0.14-0.30)
		8	3-8	140 (100-220)	0.29 (0.20-0.38)
			10-25	100 (60-110)	0.30 (0.20-0.40)
			30-40	80 (40- 90)	0.24 (0.16-0.32)
		10	3-8	150 (100-230)	0.32 (0.20-0.43)
			10-25	100 (60-110)	0.32 (0.22-0.42)
			30-40	80 (40- 90)	0.26 (0.18-0.34)
		12	3-8	160 (100-230)	0.34 (0.20-0.48)
			10-25	120 (80-140)	0.34 (0.24-0.44)
30-40	95 (55-105)		0.27 (0.19-0.35)		
16	3-8	160 (100-230)	0.36 (0.20-0.52)		
	10-25	120 (80-140)	0.36 (0.26-0.46)		
20	3-8	160 (100-230)	0.39 (0.20-0.57)		

MPS1

Material de trabajo	Propiedades	DC	L x DC	Vc	f
P Acero al carbono, Acero aleado	280-350 HB	3	3-8	80 (50-110)	0.12 (0.10-0.14)
			10-25	80 (40- 90)	0.15 (0.09-0.22)
			30-40	65 (40- 75)	0.15 (0.07-0.18)
		4	3-8	90 (60-120)	0.15 (0.12-0.18)
			10-25	80 (40- 90)	0.18 (0.11-0.27)
			30-40	65 (40- 75)	0.18 (0.09-0.22)
		5	3-8	90 (70-140)	0.19 (0.15-0.22)
			10-25	80 (40- 90)	0.22 (0.14-0.32)
			30-40	65 (40- 75)	0.22 (0.11-0.26)
		6	3-8	100 (80-150)	0.22 (0.18-0.25)
			10-25	90 (40-110)	0.24 (0.15-0.33)
			30-40	75 (40- 85)	0.24 (0.12-0.26)
		8	3-8	120 (90-170)	0.24 (0.20-0.27)
			10-25	90 (40-110)	0.27 (0.18-0.36)
			30-40	75 (40- 85)	0.27 (0.14-0.29)
		10	3-8	130 (90-180)	0.25 (0.20-0.30)
			10-25	90 (40-110)	0.29 (0.20-0.38)
			30-40	75 (40- 95)	0.29 (0.16-0.30)
		12	3-8	140 (90-180)	0.27 (0.20-0.34)
			10-25	100 (60-110)	0.30 (0.22-0.40)
30-40	80 (40-100)		0.30 (0.18-0.32)		
16	3-8	140 (90-180)	0.28 (0.20-0.36)		
	10-25	100 (60-110)	0.32 (0.23-0.41)		
20	3-8	140 (90-180)	0.30 (0.20-0.40)		
M Acero inoxidable		3	3-8	40 (20- 50)	0.08 (0.06-0.12)
			10-25	40 (20- 60)	0.07 (0.05-0.09)
			30-40	30 (20- 50)	0.06 (0.04-0.07)
		4	3-8	40 (30- 50)	0.09 (0.07-0.13)
			10-25	40 (20- 60)	0.08 (0.06-0.10)
			30-40	30 (20- 50)	0.06 (0.05-0.08)
		5	3-8	40 (30- 50)	0.11 (0.08-0.16)
			10-25	40 (20- 60)	0.10 (0.07-0.12)
			30-40	30 (20- 50)	0.08 (0.06-0.10)
		6	3-8	50 (40- 70)	0.14 (0.11-0.18)
			10-25	50 (20- 60)	0.12 (0.08-0.16)
			30-40	40 (20- 60)	0.10 (0.06-0.13)
		8	3-8	50 (40- 70)	0.15 (0.12-0.20)
			10-25	50 (20- 60)	0.14 (0.10-0.17)
			30-40	40 (20- 50)	0.11 (0.08-0.14)
		10	3-8	50 (40- 70)	0.16 (0.12-0.22)
			10-25	50 (20- 60)	0.15 (0.12-0.18)
			30-40	40 (20- 50)	0.12 (0.10-0.14)
		12	3-8	50 (40- 70)	0.18 (0.14-0.24)
			10-25	60 (25- 65)	0.17 (0.14-0.19)
30-40	50 (20- 60)		0.14 (0.11-0.15)		
16	3-8	50 (40- 70)	0.19 (0.15-0.26)		
	10-25	60 (25- 65)	0.17 (0.14-0.19)		
20	3-8	50 (40- 70)	0.21 (0.16-0.28)		

MPS1

Material de trabajo	Propiedades	DC	L x DC	Vc	f
K Fundición	≤ 350 MPa	3	3-8	90 (60-100)	0.15 (0.10-0.20)
			10-25	90 (40-110)	0.19 (0.11-0.26)
			30-40	75 (45- 95)	0.15 (0.09-0.21)
		4	3-8	100 (70-110)	0.21 (0.12-0.30)
			10-25	90 (40-110)	0.22 (0.13-0.33)
			30-40	75 (45- 95)	0.18 (0.10-0.26)
		5	3-8	110 (80-130)	0.25 (0.15-0.35)
			10-25	90 (40-110)	0.28 (0.17-0.39)
			30-40	75 (45- 95)	0.22 (0.13-0.31)
		6	3-8	120 (90-140)	0.29 (0.18-0.40)
			10-25	100 (60-110)	0.30 (0.19-0.41)
			30-40	90 (60-110)	0.24 (0.15-0.33)
		8	3-8	140 (100-160)	0.33 (0.20-0.45)
			10-25	100 (60-110)	0.33 (0.22-0.44)
			30-40	90 (60-100)	0.26 (0.18-0.35)
		10	3-8	150 (100-170)	0.35 (0.20-0.50)
			10-25	100 (60-110)	0.35 (0.24-0.46)
			30-40	90 (60-100)	0.28 (0.19-0.37)
		12	3-8	160 (100-170)	0.40 (0.20-0.60)
			10-25	120 (90-140)	0.37 (0.26-0.48)
			30-40	105 (65-115)	0.30 (0.21-0.38)
16	3-8	160 (100-170)	0.43 (0.20-0.65)		
	10-25	120 (90-140)	0.40 (0.29-0.48)		
20	3-8	160 (100-170)	0.45 (0.20-0.70)		
K Fundición dúctil	≤ 450 MPa	3	3-8	80 (50- 90)	0.12 (0.08-0.16)
			10-25	90 (40-110)	0.17 (0.10-0.24)
			30-40	30 (20- 50)	0.14 (0.08-0.19)
		4	3-8	90 (60-100)	0.17 (0.10-0.24)
			10-25	90 (40-110)	0.20 (0.12-0.30)
			30-40	30 (20- 50)	0.16 (0.10-0.24)
		5	3-8	90 (70-120)	0.21 (0.14-0.28)
			10-25	90 (40-110)	0.25 (0.15-0.35)
			30-40	30 (20- 50)	0.20 (0.12-0.28)
		6	3-8	100 (80-130)	0.25 (0.16-0.34)
			10-25	100 (60-110)	0.27 (0.17-0.37)
			30-40	40 (30- 60)	0.22 (0.14-0.30)
		8	3-8	120 (90-150)	0.28 (0.18-0.38)
			10-25	100 (60-110)	0.30 (0.20-0.40)
			30-40	40 (30- 60)	0.24 (0.16-0.32)
		10	3-8	130 (90-160)	0.29 (0.18-0.40)
			10-25	100 (60-110)	0.32 (0.22-0.42)
			30-40	40 (30- 60)	0.26 (0.18-0.34)
		12	3-8	140 (90-160)	0.31 (0.18-0.44)
			10-25	120 (90-140)	0.34 (0.24-0.44)
			30-40	50 (40- 70)	0.27 (0.19-0.35)
16	3-8	140 (90-160)	0.33 (0.18-0.48)		
	10-25	120 (90-140)	0.36 (0.26-0.46)		
20	3-8	140 (90-160)	0.35 (0.18-0.52)		

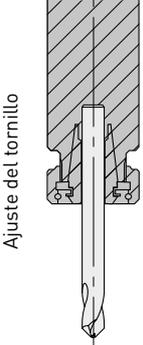
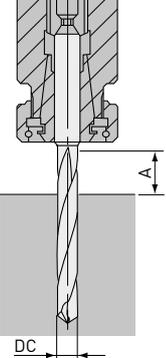
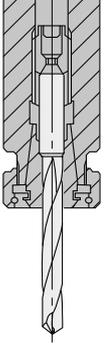
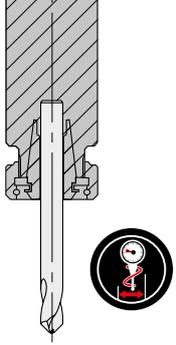
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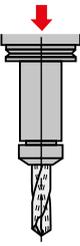
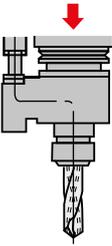
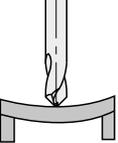
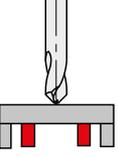
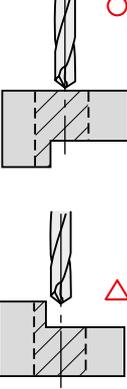
Material de trabajo	Propiedades	DC	L x DC	Vc	f
K Fundición dúctil	≤ 800 MPa	3	3-8	60 (40- 80)	0.09 (0.06-0.12)
		4	3-8	70 (50- 90)	0.13 (0.08-0.18)
		5	3-8	70 (60-100)	0.17 (0.12-0.22)
		6	3-8	80 (70-110)	0.20 (0.14-0.26)
		8	3-8	100 (80-130)	0.23 (0.16-0.30)
		10	3-8	110 (80-140)	0.24 (0.16-0.32)
		12	3-8	110 (80-140)	0.25 (0.16-0.34)
		16	3-8	110 (80-140)	0.27 (0.16-0.38)
		20	3-8	110 (80-140)	0.28 (0.16-0.40)

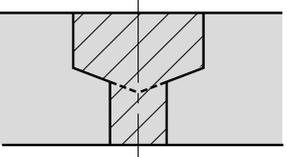
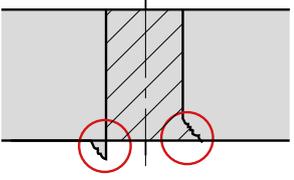
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MPS1

GUÍA OPERACIONAL

AMARRE DE LA BROCA	LONGITUD DE LA BROCA	INSTALACIÓN DE LA BROCA	TOLERANCIA DE INSTALACIÓN
 <p>Ajuste del tornillo</p>	 <p>DC</p> <p>A</p>		
La presión del tornillo ajusta la broca con seguridad.	$A \geq DC \times 1.5$	No sujete las hélices.	Tolerancia ≤ 0.03 mm

TIPO DE REFRIGERANTE	UTILIZACIÓN DEL REFRIGERANTE	PIEZA DE TRABAJO FINA	CORTE INTERRUPTIDO
<p>Refrigerante a través del husillo</p>  <p>Refrigerante gira por la máquina</p>  <p>La presión del refrigerante es aproximadamente 0.5-1 MPa (<math>\phi 5: 2-3 MPa).</p>	<p>Las pequeñas partículas de la virutas, atascan el agujero para la salida del aceite en diámetros pequeños. Utilice siempre un filtro fino como medida preventiva.</p> <p>Las partículas de polvo se adhieren al refrigerante y perjudican un flujo eficaz. Es recomendable cambiarlo regularmente.</p>	<p>Si se produce doblamiento</p>  <p>Sujetar la pieza</p> 	<p>Proceso</p> <p>1. Reduzca el avance al taladrar con corte interrumpido.</p> <p>Se requiere mecanizar previamente.</p> <p>1. Refrentar con una fresa antes de taladrar.</p> 

AGUJERO PREVIO	RUIDOS Y ROTURAS EN LA PIEZA DE TRABAJO
	
<p>Se divide en dos procesos. Primero taladrar el agujero grande. Bajo pedido se puede pedir herramienta para el mecanizado de chaflán y de refrentado.</p>	<p>Reduzca la velocidad de avance en un 50 % al final del agujero. Añada 45° de chaflán. Cambiar el punto del ángulo.</p>

MPS1

CÓMO UTILIZAR BROCAS DE TIPO LARGO

TALADRADO DE UN AGUJERO PREVIO

1. Taladrado de un agujero previo.



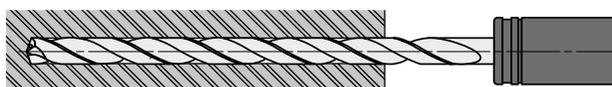
Para los agujeros guía, recomendamos utilizar previamente una broca Mitsubishi tipo MPS1 (PC) con un ángulo de punta más plano que la superlong.
Asegúrese de que el agujero guía taladrado sea muy preciso, para garantizar un proceso perfecto en el taladrado de agujeros profundos.
Profundidad del agujero guía: mín. 1 x DC o más profundo.
(Ajuste la profundidad del agujero guía en función de la longitud del tipo largo.)

2. El corte inicial con la broca de tipo largo



Realice el agujero guía a bajas revoluciones. (Velocidad de corte: 20-30 m/min, vel. avance: 0.2-0.3 mm/rev)
Detenga la broca larga a 1-3 mm del extremo inferior del agujero guía.

3. Taladrado del agujero profundo



Aumente la velocidad de giro y el avance a un ciclo y taladre hasta la profundidad de taladrado deseada.

4. Retracción de la broca



Después del taladrado, reduzca las revoluciones de corte cuando se encuentre aproximadamente a 1-2 mm del final del agujero. (Velocidad de corte de aproximadamente 20-30 m/min)
Retire la broca hasta el punto inicial de la profundidad del agujero guía con un avance de 3000 mm/min.
Por último, retírese del agujero con una velocidad de corte de 20-30 m/min y un avance de 0.2-0.3 mm/rev.

TALADRADO Y INSERCIÓN EN CARAS O ÁNGULOS IRREGULARES

1. Refrentado



Utilice la MFE para realizar caras perpendiculares en zonas oblicuas para un posterior taladrado.

2. Taladrado de un agujero previo.



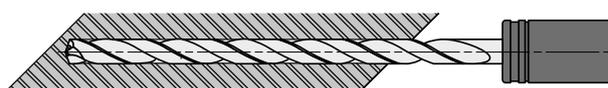
Para los agujeros guía, recomendamos utilizar previamente una broca Mitsubishi tipo MPS1 (PC) con un ángulo de punta más plano que la superlong/superlarga.
Asegúrese de que el agujero previo taladrado sea muy preciso, para garantizar un proceso perfecto en el taladrado de agujeros profundos.
Profundidad del agujero previo: mín. 1 x DC o más profundo.
(Ajuste la profundidad del agujero previos en función de la longitud del tipo largo.)

3. El corte inicial con la broca de tipo largo



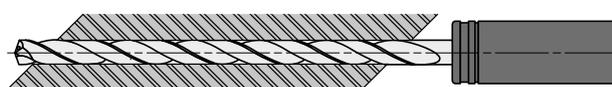
Efectúe el agujero previo a bajas revoluciones. (Velocidad de corte: 20-30 m/min, vel. avance: 0.2-0.3 mm/rev)
Detenga la broca larga a 1-3 mm del extremo inferior del agujero previo.

4. Taladrado del agujero profundo



Aumente la velocidad de giro y el avance a un ciclo y taladre hasta la profundidad de taladrado deseada.
Avance habitual hasta la perforación.

5. Inserción



Durante la inserción, el filo de corte puede resultar dañado.
Se recomienda un avance de 0.05-0.1 mm/rev.

6. Retracción de la broca



Retire la broca hasta el punto inicial de la profundidad del agujero previo con un avance de 3000 mm/min.
Por último, despeje el agujero con una velocidad de corte de 20-30 m/min y un avance de 0.2-0.3 mm/rev.

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