ダブルラックシステム

UNDERCUTS

CUMSA

UNDERCUTS

DOUBLE RACK SYSTEM

JTD 日本金型産業株式会社

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カタログ内容は予告なしにメーカーが変更している場合があります。

383-c-201110　2024年11月改訂

ダブルラックシステム
DOUBLE RACK SYSTEM by CUMSA

従来のシステムと比較

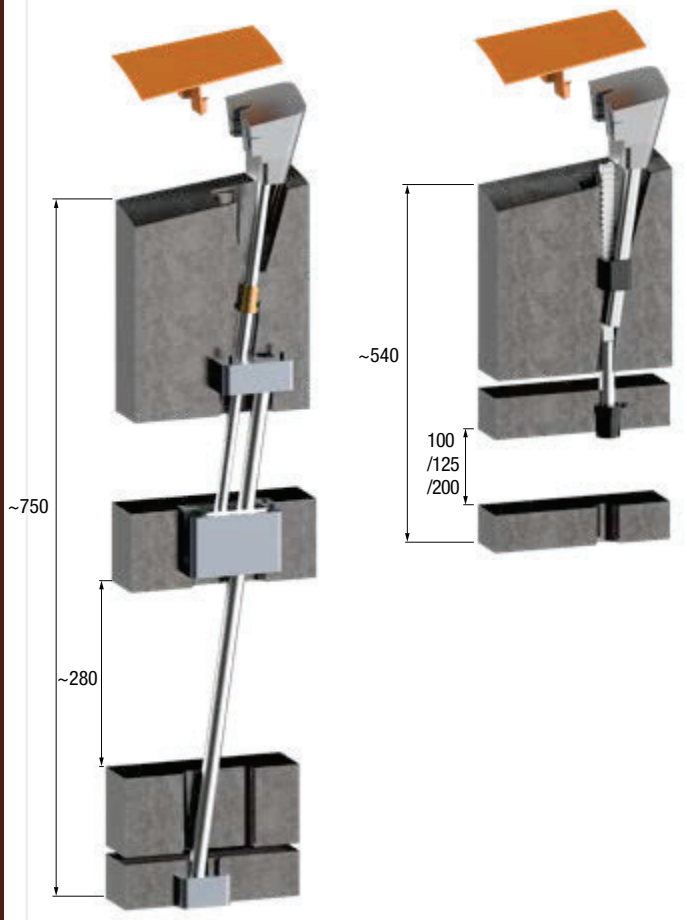
コアプレート部で高精度かつ複雑な斜め加工は不要です。

より小型の射出成形機で対応可能となります。

ダブルラックシステムの特徴

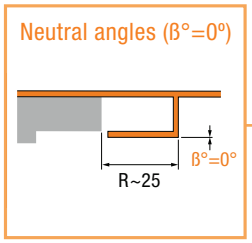
- アンダーカット量14mm～60mm
- 抜き角度　+35°　～ −55°
- 機械加工や調整の為の時間と
- コストの節約が可能となります。
  突出し量を大幅に削減
- ミラー製品にも対応可能
  （レフトアングル＆ライトアングル）

従来のシステム　　ダブルラックシステム



アンダーカット量14mm～60mm
抜き角度+35°　～ −55°

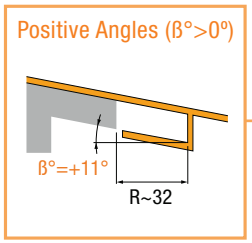
ナチュラルアングル



S ≥ R

DR.xx100L-16
KR.xx200L-16
DR.xx125L-12
KR.xx125L-12
XR.xx100L-24

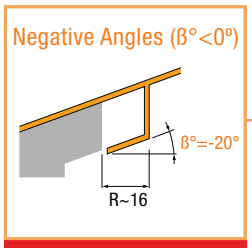
ポジティブアングル



S ≥ R

DR.xx100L-20
DR.xx125L-16
KR.xx125L-16
XR.xx100L-24

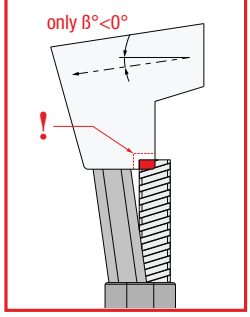
ネガティブアングル



S ≥ R

DR.xx100L-12
KR.xx200 L-12
DR.xx125L-8
KR.xx125L-8
XR.xx100L-24

重要



ストローク 100 (DR)
ストローク 200 (KR)
(Multiply S value x2)

ß°	DR.xx100L-8 / KR.xx200L-8 S (-ß°)	DR.xx100L-8 / KR.xx200L-8 S (+ß°)	DR.xx100L-12 / KR.xx200L-12 S (-ß°)	DR.xx100L-12 / KR.xx200L-12 S (+ß°)
0	14.0		21.2	
1	14.0	14.0	21.1	21.3
2	13.9	14.1	21.1	21.4
3	13.9	14.1	21.0	21.5
4	13.9	14.1	20.9	21.5
5	13.8	14.2	20.8	21.6
6	13.8	14.2	20.7	21.7
7	13.8	14.3	20.7	21.8
8	13.7	14.3	20.6	21.9
9	13.7	14.3	20.5	22.0
10	13.7	14.4	20.4	22.0
11	13.6	14.4	20.4	22.1
12	13.6	14.4	20.3	22.2
13	13.6	14.5	20.2	22.3
14	13.5	14.5	20.1	22.4
15	13.5	14.6	20.1	22.5
16	13.5	14.6	20.0	22.6
17	13.4	14.6	19.9	22.7
18	13.4	14.7	19.8	22.8
19	13.4	14.7	19.8	22.9
20	13.3	14.8	19.7	23.0
21	13.3	14.8	19.6	23.1
22	13.2	14.9	19.5	23.2
23	13.2	14.9	19.4	23.3
24	13.2	14.9	19.4	23.4
25	13.1	15.0	19.3	23.5
26	13.1	15.0	19.2	23.7
27	13.1	15.1	19.1	23.8
28	13.0	15.1	19.0	23.9
29	13.0	15.2	19.0	24.0
30	12.9	15.2	18.9	24.2
31	12.9	15.3	18.8	
32	12.9	15.4	18.7	
33	12.8	15.4	18.6	
34	12.8	15.5	18.5	
35	12.7	15.5	18.5	
36	12.7		18.4	
37	12.7		18.3	
38	12.6		18.2	
39	12.6		18.1	
40	12.5		18.0	
45	12.3		17.5	
50	12.0		16.9	
55	11.7		16.3	
60	11.3		15.5	

DR / KR　選択表

選択表β°の角度、アンダーカット量を基に
X°（8°,12°,16°,20°）を選択下さい。

ストローク 100 (DR)
ストローク 200 (KR)
(Multiply S value x2)

	DR.xx100L-16 / KR.xx200L-16		DR.xx100L-20	
	S (-β°)	S (+β°)	S (-β°)	S (+β°)
	28.6		36.4	
	28.5	28.8	36.1	36.6
	28.3	28.9	35.9	36.8
	28.2	29.1	35.7	37.1
	28.1	29.2	35.4	37.3
	27.9	29.4	35.2	37.5
	27.8	29.5	35.0	37.8
	27.7	29.7	34.8	38.1
	27.5	29.8	34.6	38.3
	27.4	30.0	34.4	38.6
	27.2	30.2	34.2	38.8
	27.1	30.3	33.9	39.1
	27.0	30.5	33.7	39.4
	26.8	30.7	33.5	39.7
	26.7	30.8	33.3	40.0
	26.6	31.0	33.1	40.3
	26.5	31.2	32.9	40.6
	26.3	31.4	32.7	40.9
	26.2	31.6	32.5	41.2
	26.1	31.8	32.3	41.6
	25.9	32.0	32.1	41.9
	25.8	32.2	31.9	
	25.6	32.4	31.7	
	25.5	32.6	31.5	
	25.4	32.8	31.3	
	25.2	33.1	31.1	
	25.1		30.9	
	25.0		30.7	
	24.8		30.4	
	24.7		30.2	
	24.6		30.0	
	24.4		29.8	
	24.3		29.6	
	24.1		29.4	
	24.0		29.2	
	23.8		29.0	
	23.7		28.7	
	23.5		28.5	
	23.4		28.3	
	23.2		28.1	
	23.1		27.8	
	22.2		26.6	
	21.3		25.1	
	20.3		23.9	
	19.1		22.3	

ストローク 125 (DR / KR)

β°	DR.xx125L-8 / KR.xx125L-8		DR.xx125L-12 / KR.xx125L-12		DR.xx125L-16 / KR.xx125L-16		DR.xx125L-20 / KR.xx125L-20	
	S (-β°)	S (+β°)	S (-β°)	S (+β°)	S (-β°)	S (+β°)	S (-β°)	S (+β°)
0	17.5		26.5		35.8		45.4	
1	17.5	17.6	26.4	26.6	35.6	36.0	45.2	45.7
2	17.4	17.6	26.3	26.7	35.4	36.2	44.9	46.0
3	17.4	17.6	26.2	26.8	35.3	36.3	44.6	46.3
4	17.3	17.7	26.1	26.9	35.1	36.5	44.3	46.6
5	17.3	17.7	26.0	27.0	34.9	36.7	44.0	46.9
6	17.3	17.8	25.9	27.1	34.7	36.9	43.8	47.3
7	17.2	17.8	25.8	27.2	34.6	37.1	43.5	47.6
8	17.2	17.9	25.7	27.3	34.4	37.3	43.2	47.9
9	17.1	17.9	25.7	27.4	34.2	37.5	43.0	48.2
10	17.1	18.0	25.6	27.6	34.1	37.7	42.7	48.6
11	17.1	18.0	25.5	27.7	33.9	37.9	42.4	48.9
12	17.0	18.1	25.4	27.8	33.7	38.1	42.2	49.3
13	17.0	18.1	25.3	27.9	33.6	38.3	41.9	49.6
14	16.9	18.2	25.2	28.0	33.4	38.6	41.7	50.0
15	16.9	18.2	25.1	28.1	33.2	38.8	41.4	50.4
16	16.8	18.3	25.0	28.2	33.1	39.0	41.1	50.7
17	16.8	18.3	24.9	28.4	32.9	39.2	40.9	51.1
18	16.8	18.4	24.8	28.5	32.7	39.5	40.6	51.5
19	16.7	18.4	24.7	28.6	32.6	39.7	40.4	52.0
20	16.7	18.5	24.6	28.7	32.4	40.0	40.1	52.4
21	16.6	18.5	24.5	28.9	32.2	40.2	39.9	
22	16.6	18.6	24.4	29.0	32.1	40.5	39.6	
23	16.5	18.6	24.3	29.2	31.9	40.8	39.4	
24	16.5	18.7	24.2	29.3	31.7	41.0	39.1	
25	16.4	18.7	24.1	29.4	31.6	41.3	38.8	
26	16.4	18.8	24.0	29.6	31.4		38.6	
27	16.3	18.9	23.9	29.7	31.2		38.3	
28	16.3	18.9	23.8	29.9	31.1		38.1	
29	16.2	19.0	23.7	30.1	30.9		37.8	
30	16.2	19.1	23.6	30.2	30.7		37.5	
31	16.1	19.1	23.5		30.5		37.3	
32	16.1	19.2	23.4		30.3		37.0	
33	16.0	19.3	23.3		30.2		36.7	
34	16.0	19.4	23.2		30.0		36.5	
35	15.9	19.4	23.1		29.8		36.2	
36	15.9		23.0		29.6		35.9	
37	15.8		22.9		29.4		35.7	
38	15.8		22.7		29.2		35.4	
39	15.7		22.6		29.0		35.1	
40	15.7		22.5		28.8		34.8	
45	15.4		21.9		27.8		33.3	
50	15.0		21.1		26.7		31.7	
55	14.6		20.3		25.4		29.9	
60	14.1		19.4		23.9		27.9	

ストローク 100 (XR)

β°	XRxx100L-24		XRxx100L-28		XRxx100L-32		XRxx100L-36	
	S (-β°)	S (+β°)	S (-β°)	S (+β°)	S (-β°)	S (+β°)	S (-β°)	S (+β°)
0	44.5		53.2		62.5		72.7	
1	44.2	44.9	52.7	53.7	61.8	63.2	71.7	73.6
2	43.8	45.2	52.2	54.2	61.2	63.9	70.9	74.5
3	43.5	45.6	51.7	54.7	60.5	64.6	70.0	75.5
4	43.2	46.0	51.3	55.2	59.9	65.3	69.1	76.5
5	42.9	46.3	50.8	55.8	59.2	66.1	68.3	77.6
6	42.5	46.7	50.4	56.3	58.6	66.9	67.5	78.7
7	42.2	47.1	49.9	56.9	58.0	67.7	66.7	79.8
8	41.9	47.5	49.5	57.5	57.4	68.5	65.9	
9	41.6	47.9	49.0	58.1	56.9	69.4	65.2	
10	41.3	48.3	48.6	58.7	56.3	70.2	64.4	
11	41.0	48.7	48.2	59.3	55.7	71.1	63.7	
12	40.7	49.2	47.8	59.9	55.2		62.9	
13	40.4	49.6	47.4	60.6	54.6		62.2	
14	40.1	50.1	46.9	61.3	54.1		61.5	
15	39.8	50.6	46.5	62.0	53.5		60.8	
16	39.5	51.0	46.1		53.0		60.1	
17	39.2	51.5	45.7		52.5		59.4	
18	38.9	52.1	45.3		51.9		58.8	
19	38.6	52.6	44.9		51.4		58.1	
20	38.3		44.5		50.9		57.5	
21	38.0		44.2		50.4		56.8	
22	37.7		43.8		49.9		56.2	
23	37.4		43.4		49.4		55.5	
24	37.2		43.0		48.9		54.9	
25	36.9		42.6		48.4		54.3	
26	36.6		42.2		47.9		53.6	
27	36.3		41.8		47.4		53.0	
28	36.0		41.5		46.9		52.4	
29	35.7		41.1		46.4		51.8	
30	35.4		40.7		45.9		51.2	
31	35.1		40.3		45.4		50.6	
32	34.8		39.9		44.9		50.0	
33	34.5		39.5		44.4		49.4	
34	34.2		39.1		44.0		48.8	
35	33.9		38.7		43.5		48.2	
36	33.6		38.4		43.0		47.6	
37	33.3		38.0		42.5		46.9	
38	33.0		37.6		42.0		46.3	
39	32.7		37.2		41.5		45.7	
40	32.4		36.8		41.0		45.1	
45	30.8		34.7		38.4		42.0	
50								
55								
60								

Special β° angles possible under request
ES Posibilidad de ángulos β° especiales DE Sonderwinkel auf Anfrage möglich (β°) IT E' possibile avere angolazioni β° speciali su richiesta PT Possibilidade de ângulos β° especiais FR Possibilité de réaliser des angles β° spéciaux.

DR

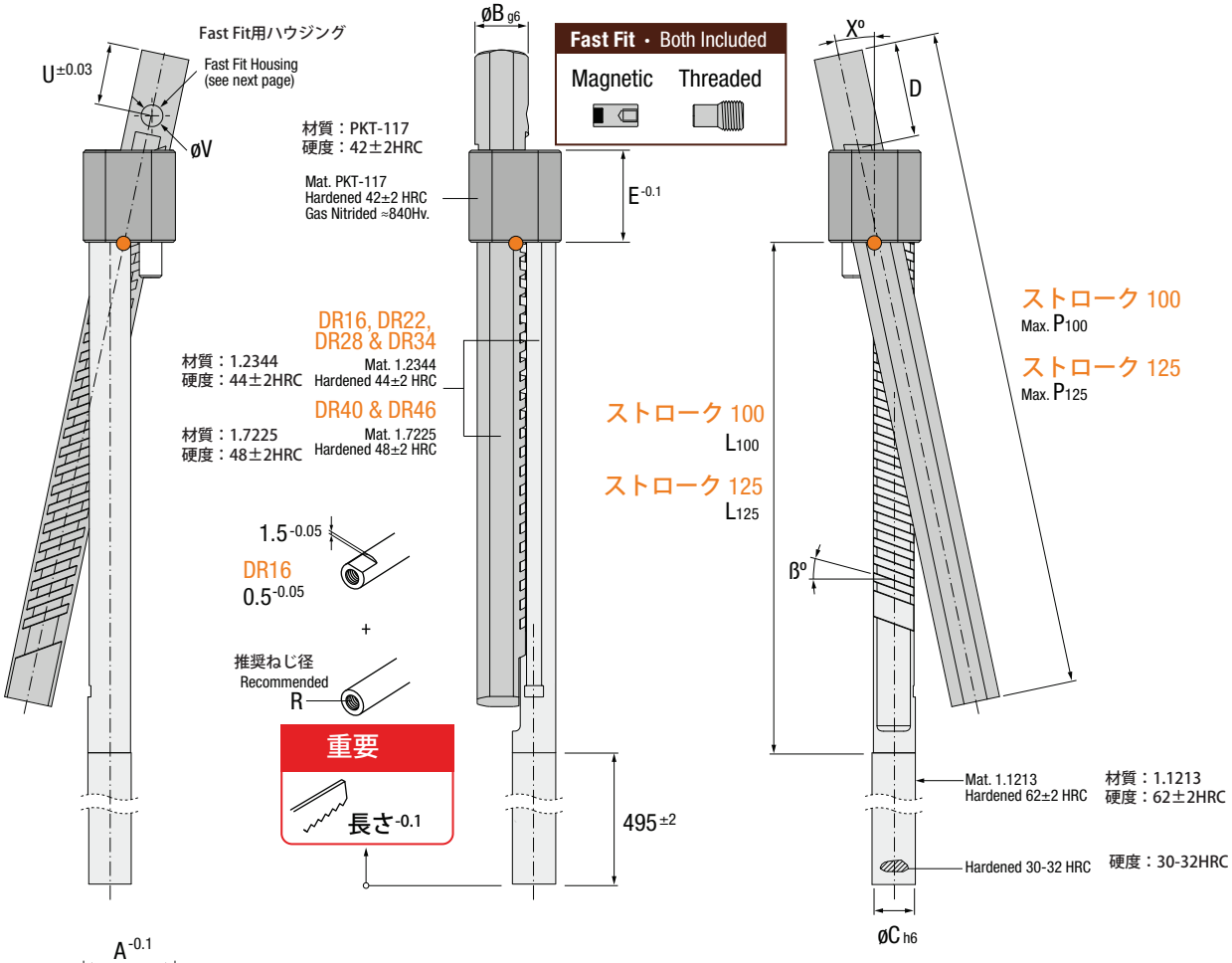
UNDERCUTS

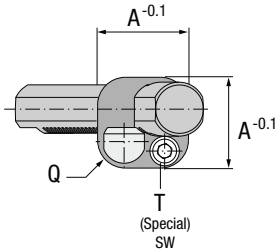
Patented

Max. 150ºC

最高使用温度 150℃

Cad Insertion Point

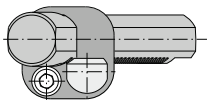




レフトアングル用

重要

ライトアングル用
Mirror Part.



Stroke 100	Stroke 125	Xº				A	B	C	D	E	L100	P100	L125	P125	Q	R	T	U	V	Stroke 100-S	Stroke 125-S	SWa
DR.16100L-x	-	8	12	16	-	16	9	8	20	20	142	178	-	-	4	M5	M5	10	6	DR.16100L-x-S	-	3
DR.22100L-x	DR.22125L-x	8	12	16		22	12	12	30	22	148	202	202	261	6.5	M6	M6	17	8	DR.22100L-x-S	DR.22125L-x-S	4
DR.28100L-x	DR.28125L-x	8	12	16	20	28	16	14	36	28	152.5	214	194.5	266	8.5	M8	M8	23	8	DR.28100L-x-S	DR.28125L-x-S	5
DR.34100L-x	DR.34125L-x	8	12	16	20	34	20	16	36	34	160.5	227	188.5	264	10.5	M8	M8	23	8	DR.34100L-x-S	DR.34125L-x-S	5
DR.40100L-x	DR.40125L-x	8	12	16	20	40	22	20	36	40	170	244	204	284	10.5	M10	M10	20	10	DR.40100L-x-S	DR.40125L-x-S	6
DR.46100L-x	DR.46125L-x	8	12	16	20	46	24	24	42	46	175	258	201	289	10.5	M10	M12	26	10	DR.46100L-x-S	DR.46125L-x-S	8

HOW TO ORDER !

Check page 48-49 for Min / Max β values

βº < 0 & βº = 0

DR 28 100L - 12 -10 (A, Stroke, Xº, β) — Standard

βº > 0

DR 28 100L - 12 +10 (A, Stroke, Xº, β) — Standard

DR 28 100L - 12 -S -10 (A, Stroke, Xº, β) — Symmetrical

DR 28 100L - 12 -S +10 (A, Stroke, Xº, β) — Symmetrical

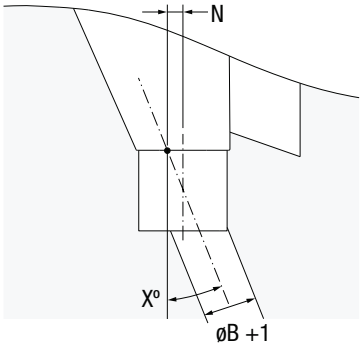
PLAY

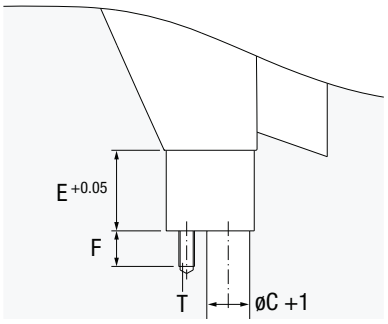
DR
UNDERCUTS

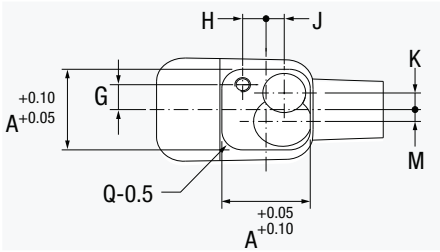
Patented
Max. 150ºC

最高使用温度
150℃

Core Housing
コアハウジング



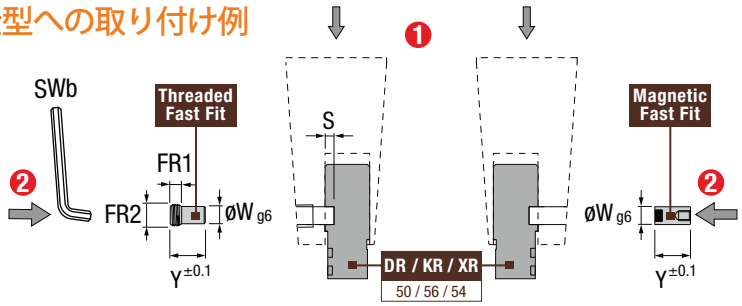


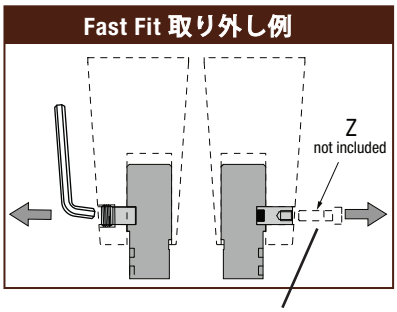


Stroke 100	Stroke 125	Stroke 200	F	FR1	FR2	G	H	J	K	M	N	S	T	W	Y	Z	SWb
DR.16100L-..	-	-	10	4.9	M8x1	4.6	4.6	3	2.35	3	2.8	2.5	M5	6	9	M4	4
DR.22100L-..	DR.22125L-.. / KR.22125L-..	-	13	5.3	M10x1	5.6	5.6	4.2	3.7	4.2	3.5	2.5	M6	8	12	M4	5
DR.28100L-..	DR.28125L-.. / KR.28125L-..	-	16	5.3	M10x1	7.5	7.5	5	5.4	4.8	4.8	2.5	M8	8	13.5	M4	5
DR.34100L-..	DR.34125L-.. / KR.34125L-..	-	16	5.3	M10x1	10.5	8	7	7	5	6	4	M8	8	16	M4	5
DR.40100L-..	DR.40125L-.. / KR.40125L-..	-	20	8.5	M12x1	11	11	7	8	7	7	4	M10	10	20	M6	6
DR.46100L-..	DR.46125L-.. / KR.46125L-..	-	25	8.5	M12x1	13	13	8	8	9	9	5	M12	10	24	M6	6
-	-	KR.58200L-..	28	8.5	M16x1.5	15.5	15.5	10	12.2	11.2	10	5	M14	12	30	M6	8
-	-	KR.76200L-..	36	14	M16x1.5	21	21	13	15.2	15.2	12	6	M18	12	36	M6	8

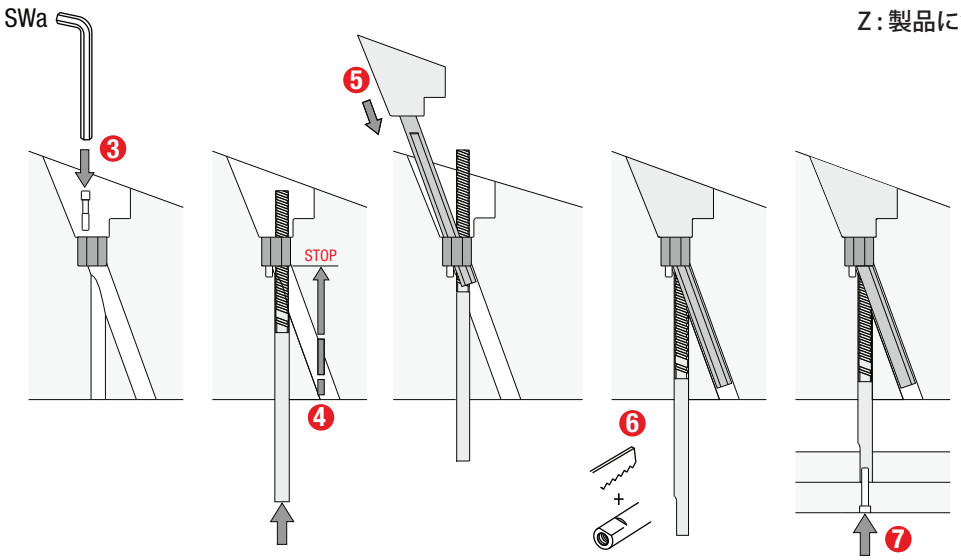
Installation
FAST FIT の取り付け、取り外し例

金型への取り付け例





Z：製品に含まれておりません



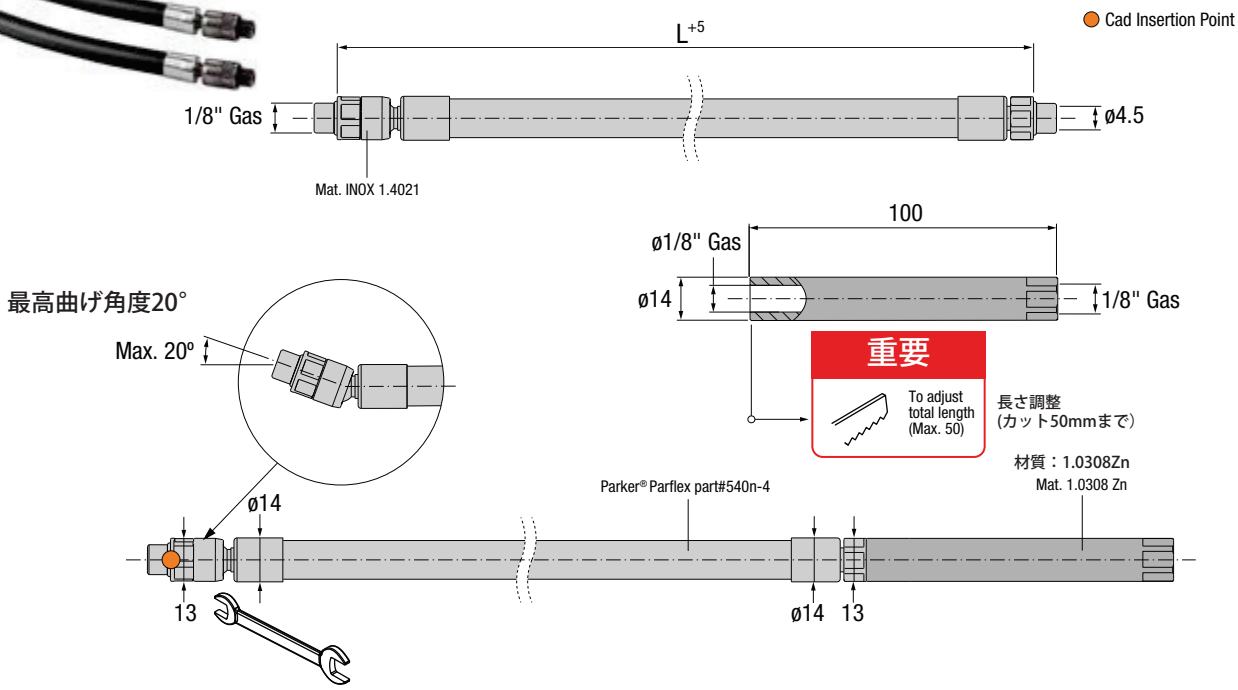
PLAY

DK

UNDERCUTS

Max. Cooling Fluid 50°C

流体最高使用温度
50℃



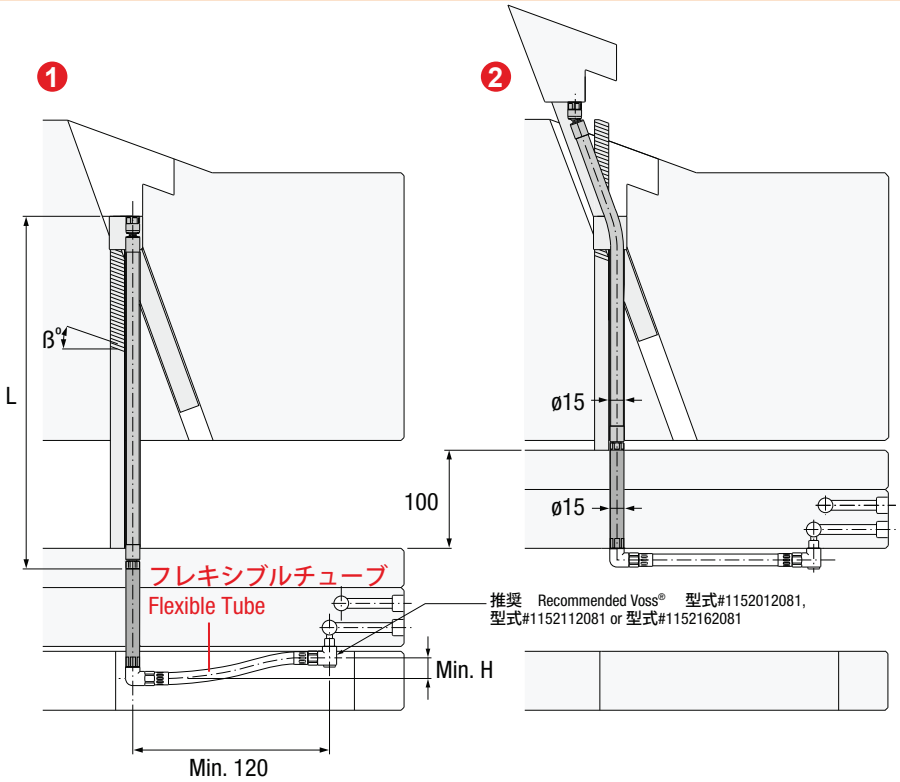
型番	β°	H			
		DR.xxxxxx-8	DR.xxxxxx-12	DR.xxxxxx-16	DR.xxxxxx-20
DK.141818-...	Negative to 0º	10	10	10	10
	+1º to +9º	10	10	10	15
	+10º to +20º	10	15	20	25
	>+20º	15	20	25	30

重要

Indicate the required **L** dimension; the length will be rounded up to the next multiple of 25mm.

ご注文時L寸法を25mm単位でご指定下さい。

Installation Guidelines
金型への取り付け例



PLAY

ADJUSTABLE FIXING
高さ調整ユニット

エジェクタープレートに組込む調整コマでDR/KRを固定する前に
約±2mmの高さ調整が可能です。

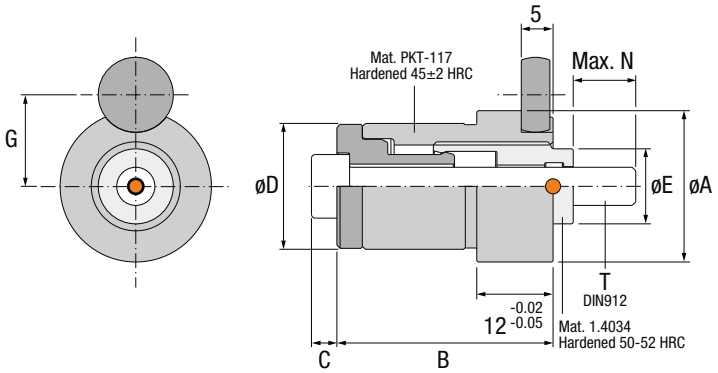
RF

UNDERCUTS

Max. 150℃

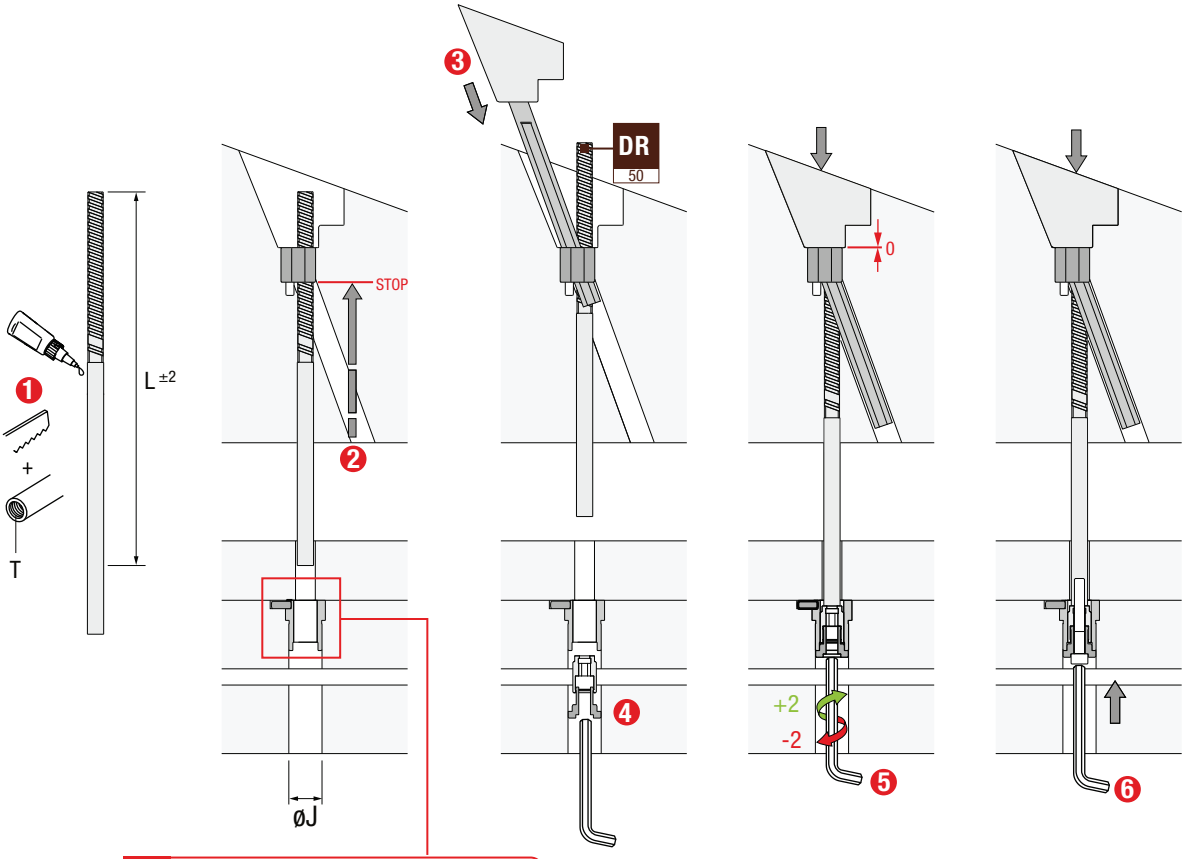
最高使用温度
150℃

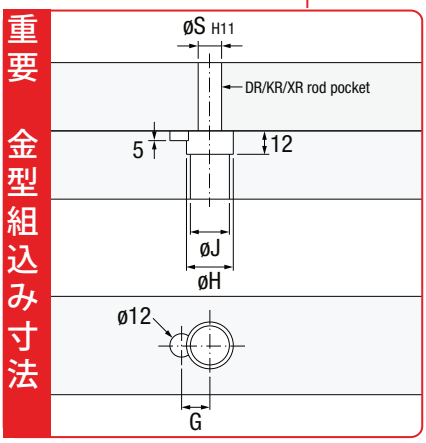
Cad Insertion Point



型番	A	B	C	D	E	G	H	J	N	T	S	Compatible with DR,KR対応型番
RF.161605	19.8	34	3	15.8	7.8	12.5	20	16	18	M5x45	8	DR16
RF.222006	23.8	34	4	19.8	11.8	14.5	24	20	18	M6x45	12	DR22/KR22
RF.282408	27.8	42	0	23.8	13.8	16.5	28	24	20	M8x50	14-16	DR28/DR34/KR28/KR34
RF.403210	35.8	42	0	31.8	19.8	20.5	36	32	24	M10x50	20-24	DR40/DR46/KR40/KR46

Installation Guidelines
金型への取り付け例





PLAY

XR

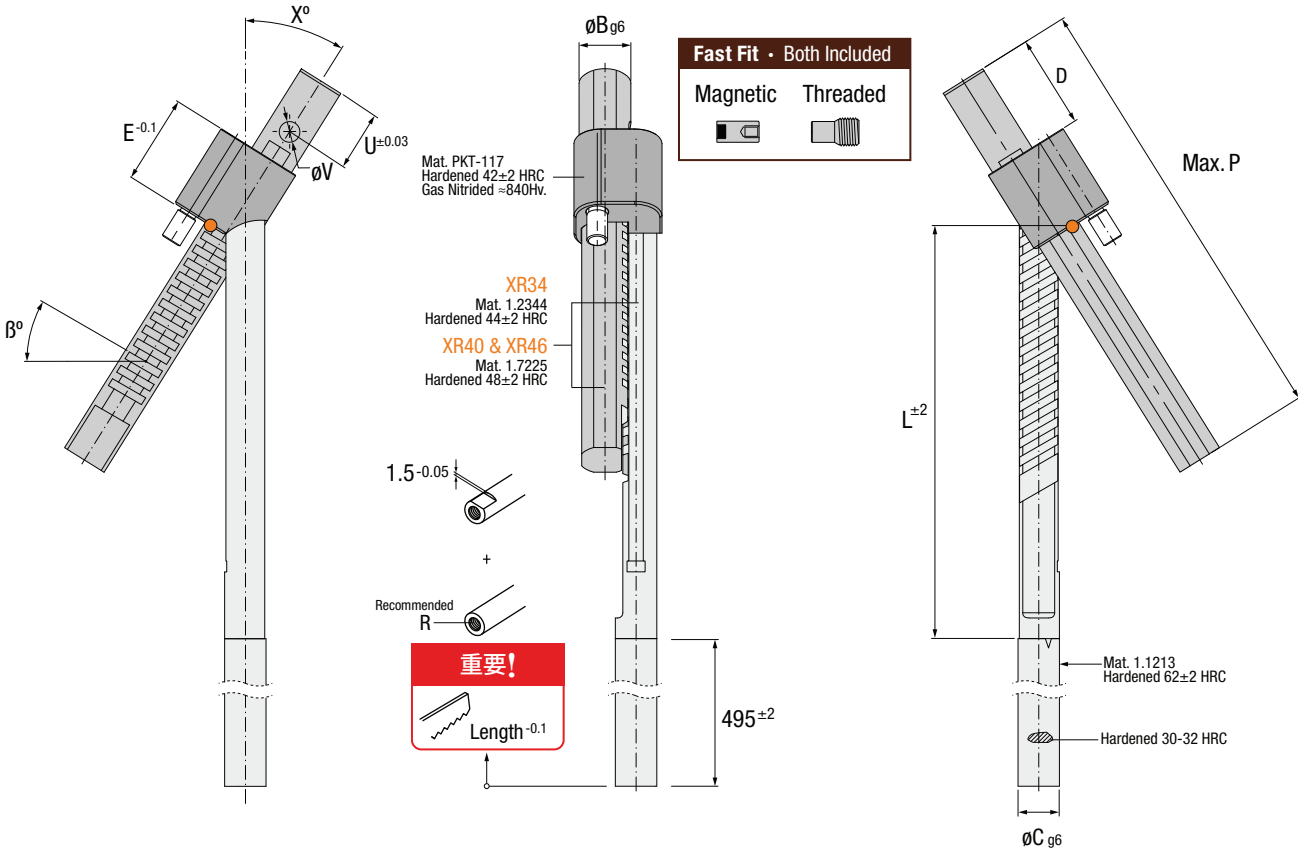
UNDERCUTS

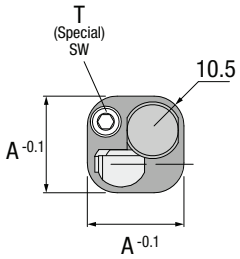
Patented

Max. 120ºC

最高使用温度
120℃

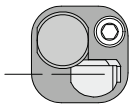
Cad Insertion Point





! 重要

Mirror Part.
Pieza Simétrica.
Symmetrisches Teil.
Versione specchiata.
Peça em Espelho.
Pièce en Miroir.



Stroke 100	X°				A	B	C	D	E	L	P	R	T	U	V	Stroke 100-S	SWa
XR34100L-x	24	28	32	36	34	20	16	36	34	159	225	M8	M8	23	8	XR34100L-x-S	5
XR40100L-x	24	28	32	36	40	22	20	36	40	170	240	M10	M10	20	10	XR40100L-x-S	6
XR46100L-x	24	28	32	36	46	24	24	42	46	174	255	M10	M12	26	10	XR46100L-x-S	8

! HOW TO ORDER

Check page 48-49 for Min / Max β values

βº < 0 & βº = 0

XR 34 (A) 100L (Stroke) - 28 (Xº) -10 (β) — Standard — XR 34 (A) 100L (Stroke) - 28 (Xº) +10 (β)

XR 34 (A) 100L (Stroke) - 28 (Xº) -S -10 (β) — Symmetrical — XR 34 (A) 100L (Stroke) - 28 (Xº) -S +10 (β)

βº > 0

PLAY

XR

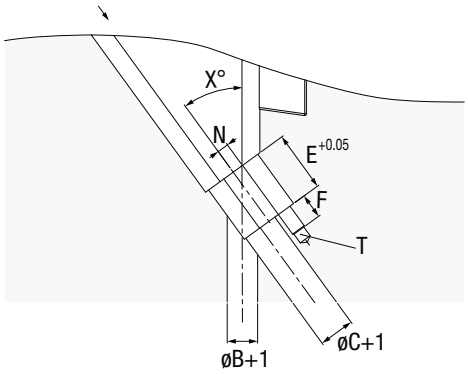
UNDERCUTS

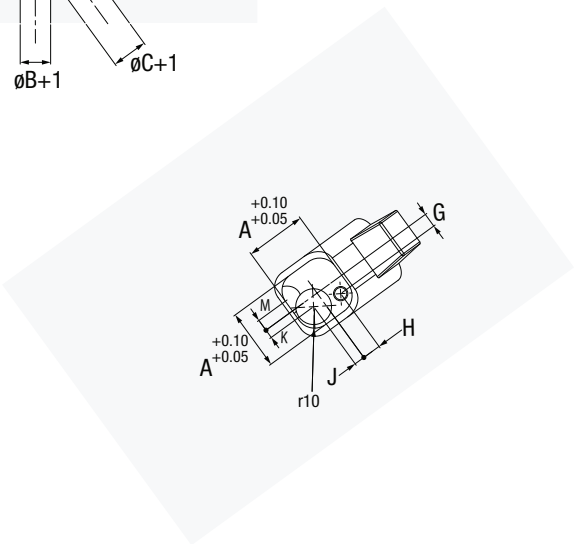
Patented

Max. 120ºC

最高使用温度 120℃

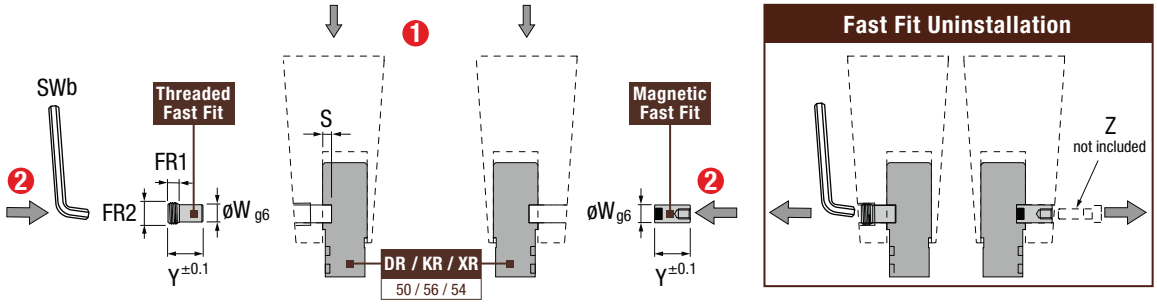
Core Housing
コアハウジング

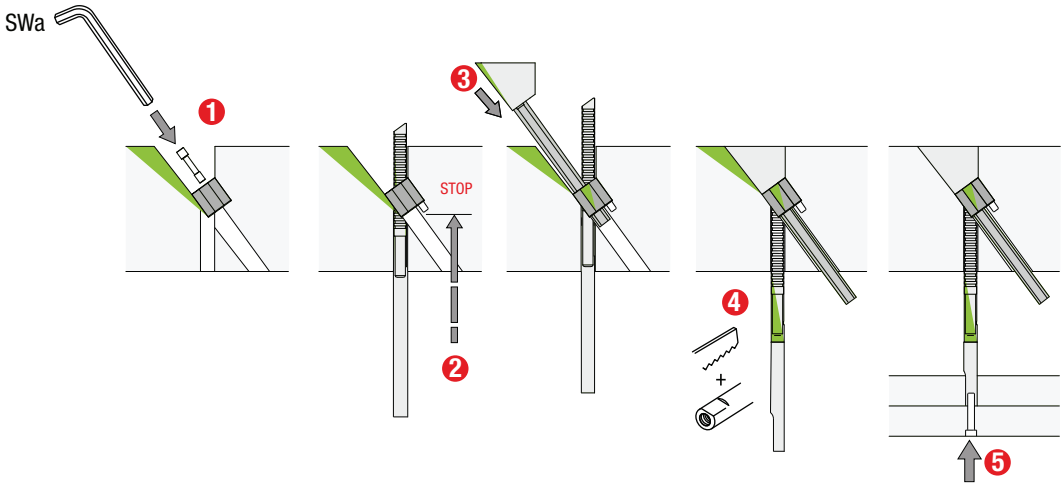




Stroke 100	F	FR1	FR2	G	H	J	K	M	N	S	T	W	Y	Z	SWb
XR34100L-..	16	5.3	M10x1	8	10.5	6	5	7	6	4	M8	8	16	M4	5
XR40100L-..	20	8.5	M12x1	11	11	7	7	8	7	4	M10	10	20	M6	6
XR46100L-..	25	8.5	M12x1	13	13	9	9	8	8	5	M12	10	24	M6	8

Installation
組込み





PLAY

KR

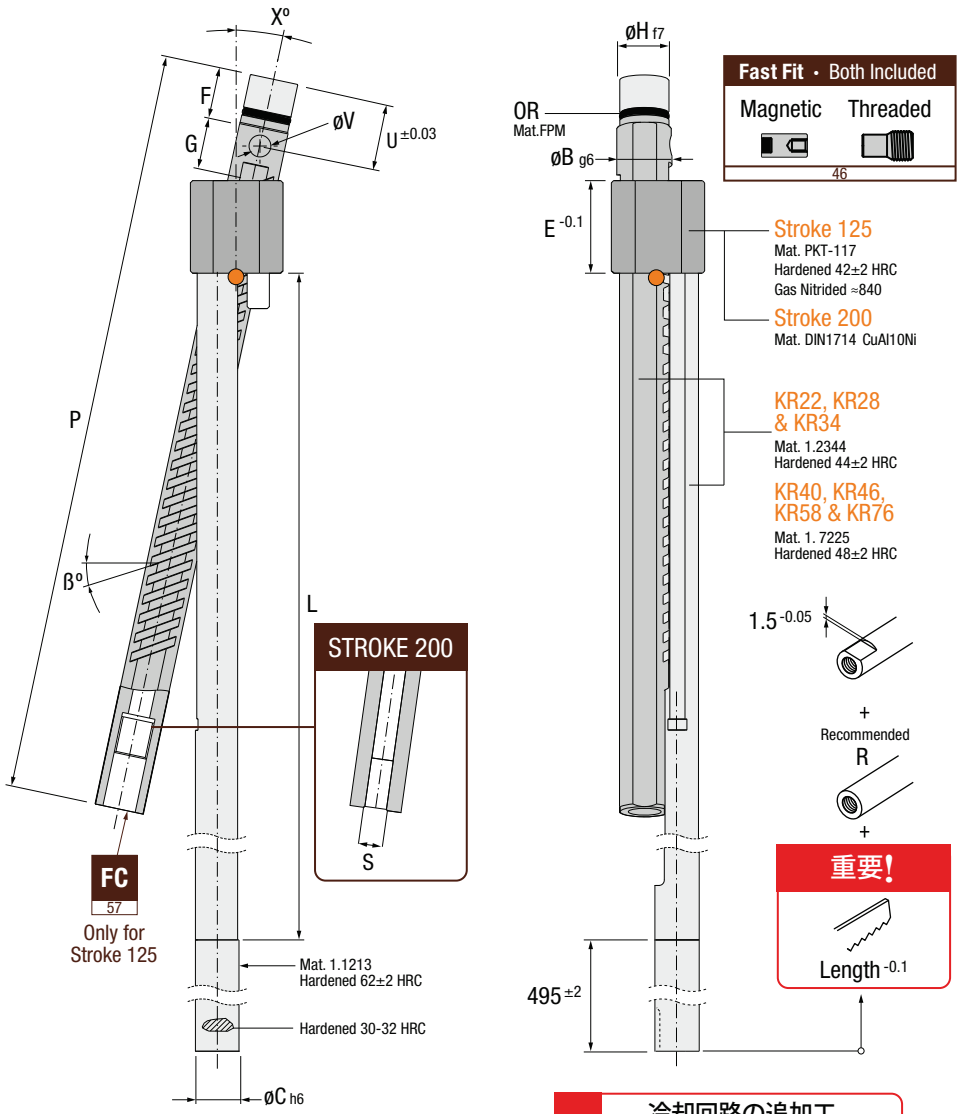
UNDERCUTS

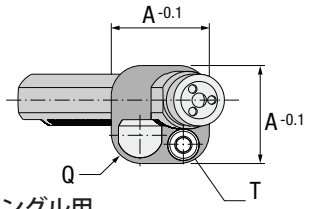
Patented

Max. 80ºC

最高使用温度 80℃

Cad Insertion Point





レフトアングル用

特注ねじも製品に含まれております

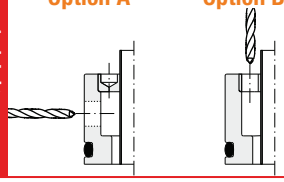
重要

冷却回路の追加工

ストローク125ご使用時のみ

Option A

Option B



重要

ライトアングル用

	レフトアングル	Xº				A	B	C	E	F	G	H	L	P	Q	R	S	T	U	V	OR	Mirror Ref. -S	SW
Stroke 125	KR.22125L-x	8	12	16	20	22	12	12	22	16	20	10.8	282	260	6.5	M6	-	M6	23	8	8x1.25	KR.22125L-x-S	4
	KR.28125L-x	8	12	16	20	28	16	14	28	16	20	13.8	294.5	272	8.5	M8	-	M8	23	8	11x1.3	KR.28125L-x-S	5
	KR.34125L-x	8	12	16	20	34	20	16	34	18	20	17.8	311.5	275	10.5	M8	-	M8	25	8	14x1.78	KR.34125L-x-S	5
	KR.40125L-x	8	12	16	20	40	22	20	40	20	25	19.8	342	350	10.5	M10	-	M10	28	10	16x2	KR.40125L-x-S	6
	KR.46125L-x	8	12	16	20	46	24	24	46	22	25	21.8	361	350	10.5	M12	-	M12	30	10	18x2	KR.46125L-x-S	8
Stroke 200	KR.58200L-x	8	12	16	-	58	30	30	66	25	55	26	362	430	13.5	M20	1/4"Gas	M14	60	12	21x2.5	KR.58200L-x-S	12
	KR.76200L-x	8	12	16	-	76	40	40	80	30	60	34	392	470	17	M24	3/8"Gas	M18	70	12	28x3	KR.76200L-x-S	14

HOW TO ORDER !

Check page 48-49 for Min / Max β values

βº < 0 & βº = 0

KR 28 (A) 125L (Stroke) - 12 (Xº) -10 (β) — Standard

KR 28 (A) 125L (Stroke) - 12 (Xº) -S -10 (β) — Symmetrical

βº > 0

KR 28 (A) 125L (Stroke) - 12 (Xº) +10 (β) — Standard

KR 28 (A) 125L (Stroke) - 12 (Xº) -S +10 (β) — Symmetrical

PLAY

KR COOLING HOSE
ＫＲ用冷却ホース

コンパクトな冷却回路を実現。チューブ内を冷却が通り、チューブ外側を通って戻ります。冷却のIN、OUTはKRシャフト内を通るため余分なスペースが不要です。
特殊な固定方式によりチューブの外径は密封され水漏れを防止します。

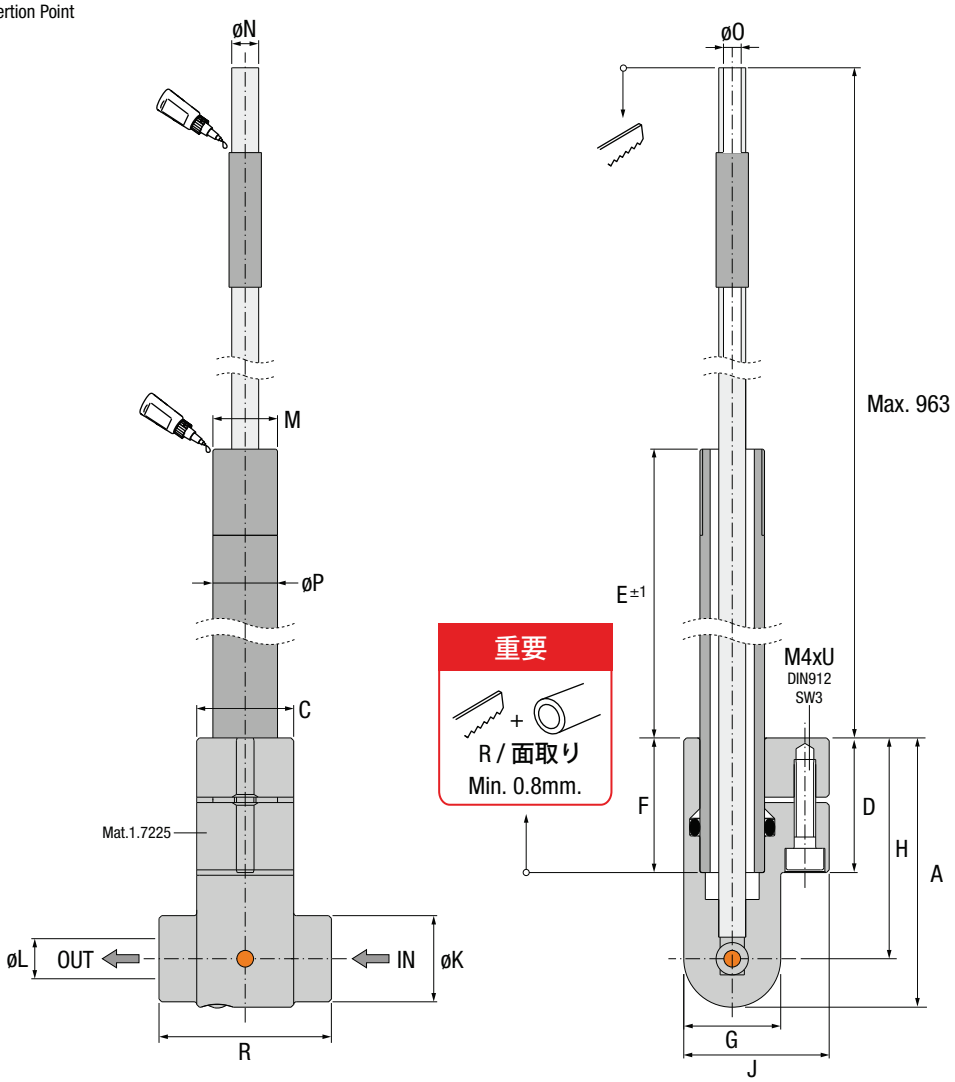
FC

UNDERCUTS

Max. 80ºC

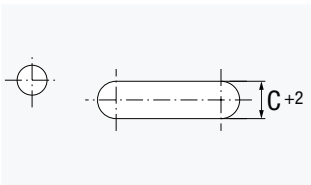
最高使用温度
80℃

Cad Insertion Point

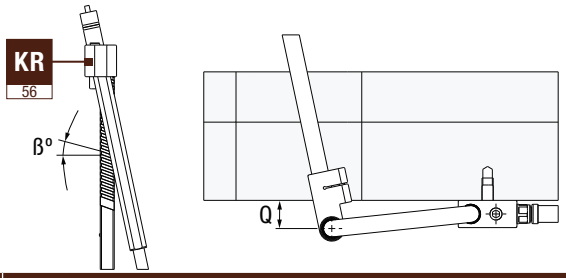


型番	A	C	D	E	F	G	H	J	K	L	M	N	O	P	R	U	KR対応型番
FC.220500	40	15	18	483.5	16.5	18	31	27	16	1/8” GAS	M8x1	3.5	3	8	32	10	KR.22125L
FC.280500	50	18	25	475	25	18	41	27	16	1/8” GAS	M10x1	4.5	4	10	32	16	KR.28125L
FC.340500	50	18	25	475	25	18	41	27	16	1/8” GAS	M12x1	5	4.5	12	32	16	KR.34125L
FC.400500	54	20	25	475	25	20	44	30	18	1/4” GAS	M14x1	7	6.5	14	40	16	KR.40125L / KR.46125L

Installation Guidelines
金型への取り付け例



重要　金型組込み寸法



型番	Q					
	ß≤0º	0º<ß≤10º	10º<ß≤20º	20º<ß≤25º	25º<ß≤30º	30º<ß≤35º
KR.xx125L-8	10	15	18	20	23	25
KR.xx125L-12	10	16	22	25	29	-
KR.xx125L-16	10	18	26	31	-	-
KR.xx125L-20	10	20	31	-	-	-

PLAY

MK

ホースのねじれを防ぐためにロータリージョイントと接続。
漏れを防ぐ為、頑丈なホースを使用。

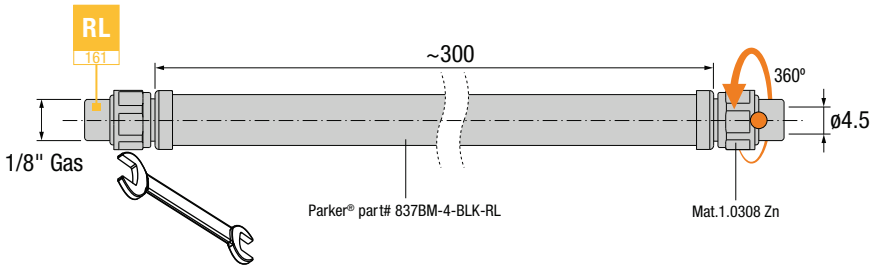
CONNECTION HOSE
接続ホース

UNDERCUTS

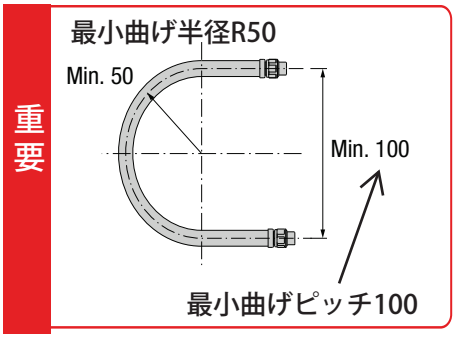
Max. 80ºC

最高使用温度
80℃

Cad Insertion Point



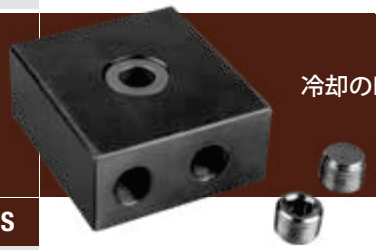
型番
MK.120300



RD

冷却のIN、OUTをコンパクトに分割するマニホールド。

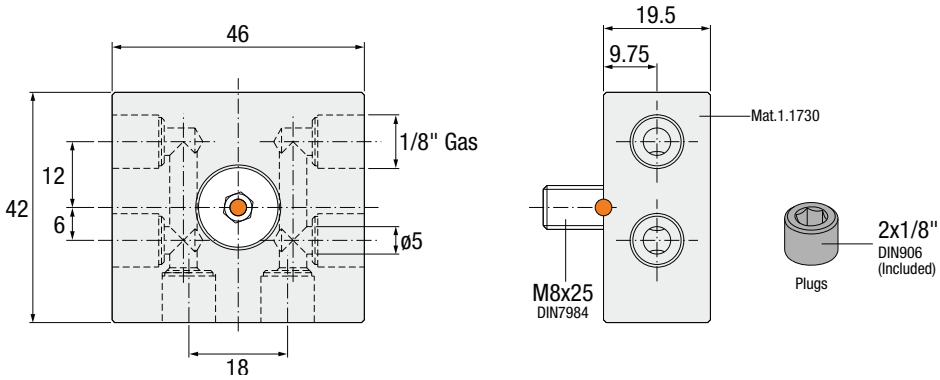
COOLING DISTRIBUTOR
冷却マニホールド



UNDERCUTS

Max. 80ºC

最高使用温度
80℃



型番
RD.182012

CK

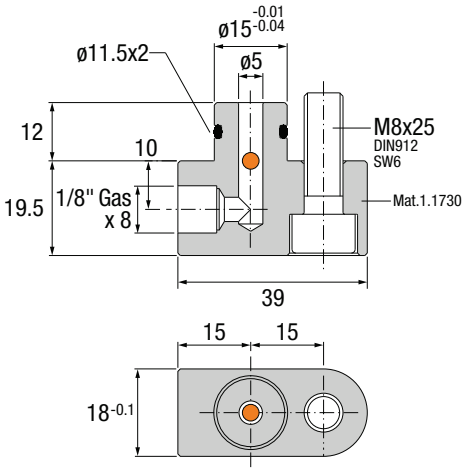
外部の回路からの冷却水と連結するためのエルボー。

90° PLATE CONNECTOR
90° プレートコネクター

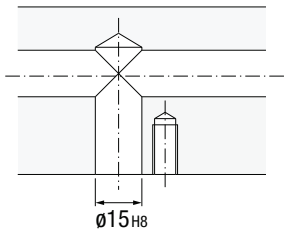
UNDERCUTS

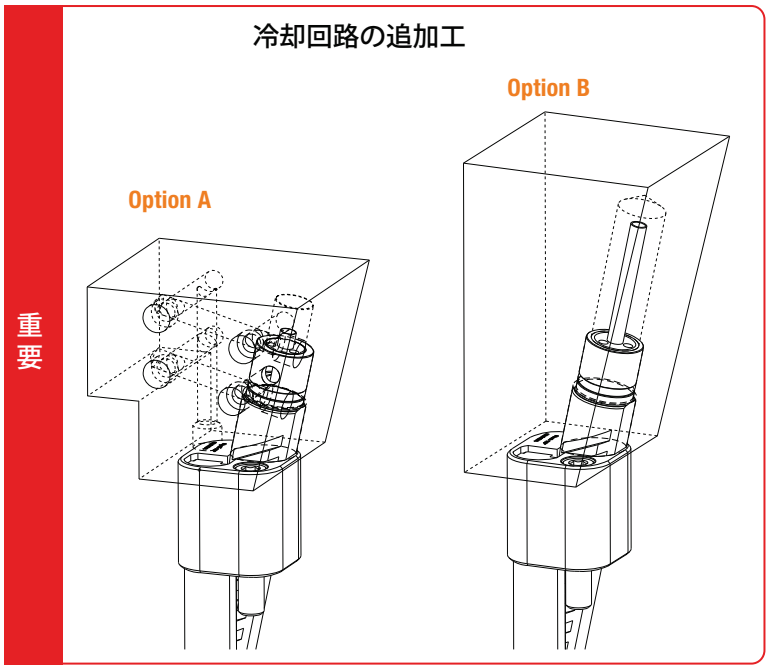
Max. 80ºC

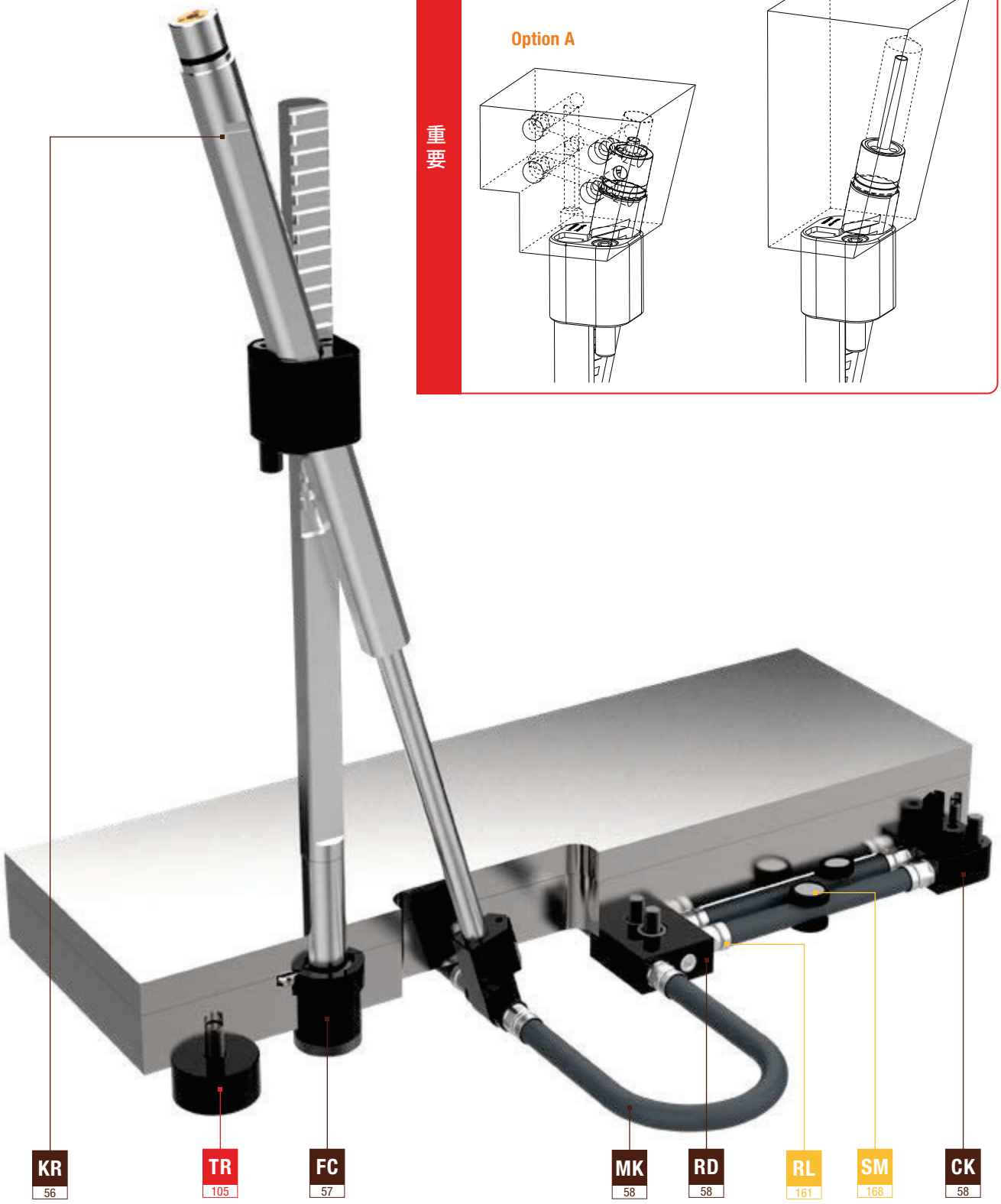
最高使用温度
80℃



型番
CK.181839







KR：冷却用ラックリフター
TR：プレートスペーサー
FC：KR用冷却ホース

MK：接続ホース
RD：冷却マニホールド
RL：冷却用コネクター
SM：ホースリテーナ
CK：プレートコネクター

SPECIAL NOTES

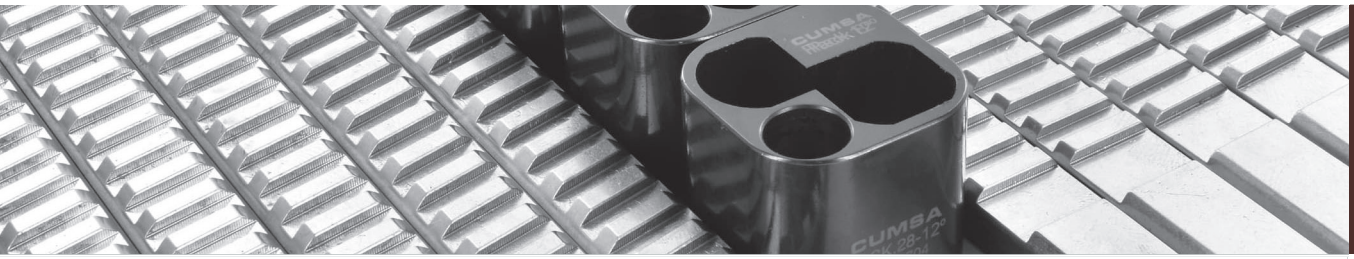
Notas / Anmerkungen / Appunti / Notas / Notes

VACUUMJET 60

CUMSA

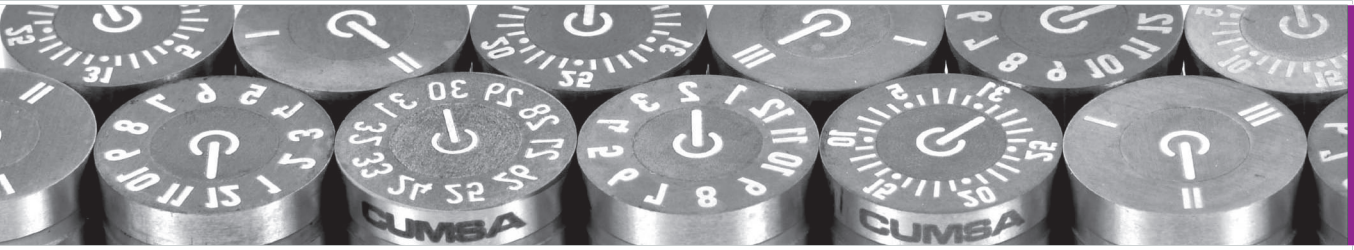
INNOVATIVE SOLUTIONS FOR YOUR MOLDS

SLIDES



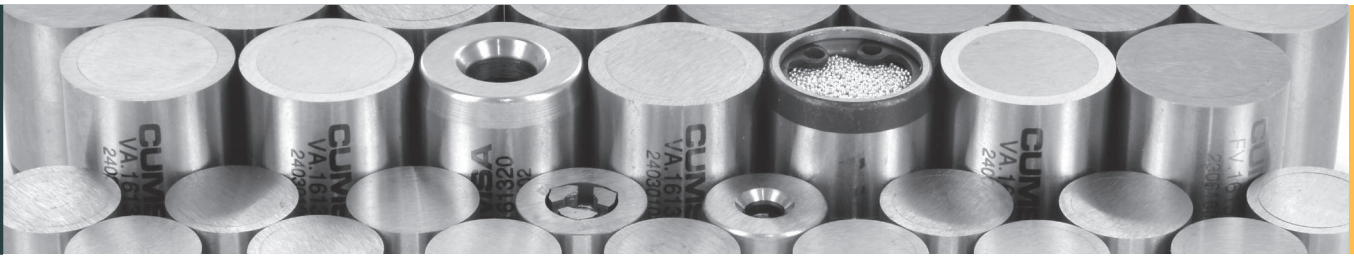
UNDERCUTS

EJECTION



TRACEABILITY

VACUUM



ACCESSORIES

JTD 日本金型産業株式会社
〒140-0011東京都品川区東大井5-12-10大井朝陽ビル1F
TEL:03-6810-4751 FAX:03-6810-4766
URL:https://jtdtky.co.jp E-mail:jtd@jtdtky.co.jp