

Hydraulic cylinder Tie rod design

RE 17047/11.03 1/8

Type VBH

Nominal pressure 200 bar (20 Mpa)
Piston Ø 25 to 125 mm
Piston rod Ø 16 to 70 mm
4 mounting styles



Overview of contents

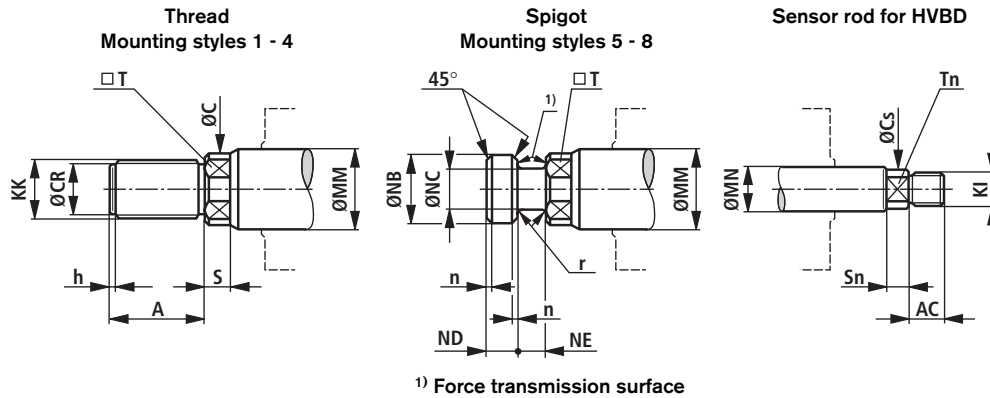
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Features

– Standards: CNOMO 05-07-65 to 05-07-70	
– Standard stroke lengths from 5 to 160 mm	1
– Without end position cushioning	2
– 3 / 2 connections at cylinder head and base	2

Piston rod ends (in mm)



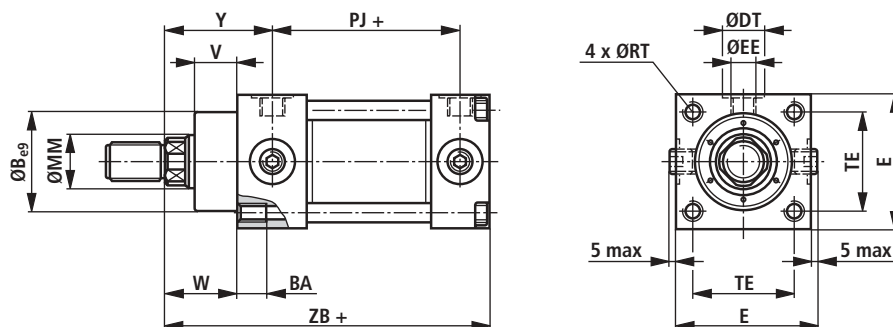
AL	MM	KK	A	CR	h	C	T	S	NB	NC	ND	NE	n	r	p_{max}	MN	AC	KI	Cs	Sn	Tn
Ø	Ø			h13	h13	H11		h13	h13	h13	H11			bar							
25	16	M12x1.25	20	9.5	2.5	14	12	8	14	8	6	6	0.2	0.3	180	10	10	M8x1.25	9.5	5	8
32	18	M12x1.25	20	9.5	2.5	15	13	8	15	9	6	6	0.2	0.3	115	10	10	M8x1.25	9.5	5	8
40	22	M16x1.5	25	13	3	19	17	8	18	11.2	8	8	0.2	0.5	125	12	12	M10x1.5	12	6	10
50	28	M20x1.5	32	17	3	25	22	8	22.4	14	10	10	0.2	0.5	115	12	12	M10x1.5	12	6	10
63	36	M27x2	40	23.5	3	33	30	12.5	28	18	12.5	12.5	0.3	0.8	130	12	12	M10x1.5	12	6	10
80	45	M33x2	50	29.5	3	42	36	12.5	35.5	22.4	16	16	0.3	0.8	110	12	12	M10x1.5	12	6	10
100	56	M42x2	63	38.5	5	53	46	14	45	28	20	20	0.5	1.2	125	16	16	M12x1.25	15	8	13
125	70	M56x2	80	48.5	5	67	60	14	56	35.5	25	25	0.5	1.2	115	16	16	M12x1.25	15	8	13

Technical data (for applications outside these parameters, please consult us!)

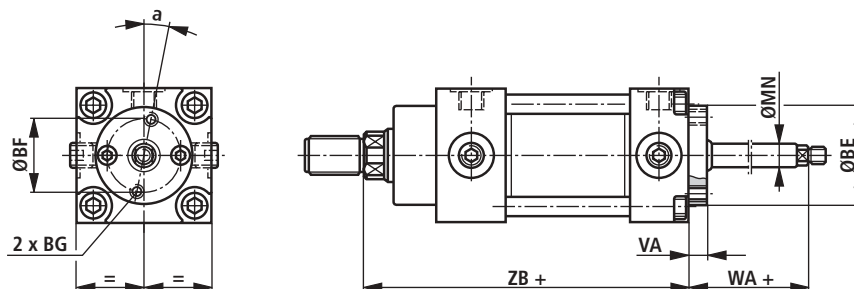
General			
Installation		Optional	
Maximum stroke speed	v_{max}	m/s	0.2 for piston Ø < 80 0.1 for piston Ø > 80
Recommended maximum end stop velocity		mm/s	< 10
Stroke tolerance		mm	+2
Hydraulic			
Maximum operating pressure	p_{max}	bar	200 bar for standard strokes (cover attached by means of screws) with external threads; limited to 160 bar for intermediate strokes and tie rods (special version); for piston rod end spigots see dimension table
Pressure fluid temperature range	H-seals	°C	-20 to +80
	V-seals	°C	-20 to +160
Cleanliness class to ISO code			Maximum permissible degree of contamination of the pressure fluid is to ISO 4406 (C) class 20/18/15
Viscosity range		mm ² /s	2.8 to 380

Mounting styles 1 and 5: threads on cylinder head (in mm)

HVBS to CNOMO 05.07.66



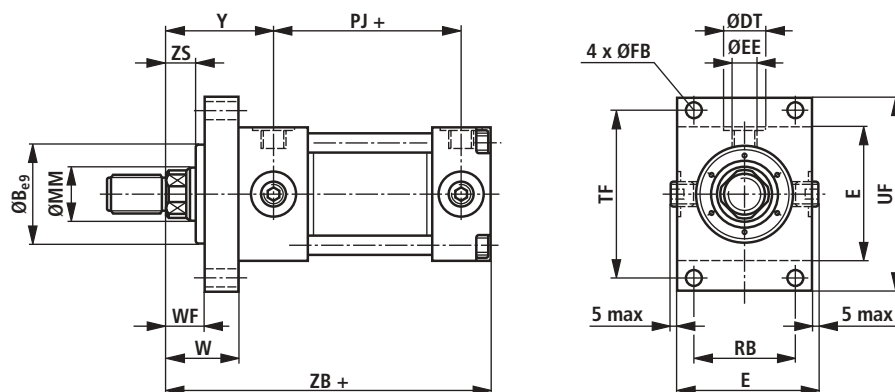
HVBD sensor rod to CNOMO 05.07.70



AL	MM	a	B	BA	BE	BF	BG	DT	E	EE	MN	PJ	RT	TE	V	VA	W	WA	Y	ZB
Ø	Ø		e9																	
25	16	-	36	12	36	25	M5	19	45	1/8	10	34	M6	34	16	8	28	20	46	92
32	18	-	40	12	36	25	M5	19	56	1/8	10	45	M8	42	20	8	32	20	48	102
40	22	-	45	12	42	32	M6	25	63	1/4	12	45	M10	45	25	12	40	32	55	115
50	28	-	56	12	42	32	M6	25	75	1/4	12	53	M10	56	28	12	40	32	57	125
63	36	15°	63	18	63	50	M6	28	85	3/8	12	56	M12	65	28	12	45	32	71	145
80	45	-	80	18	63	50	M6	28	106	3/8	12	63	M16	80	32	12	50	32	74	152
100	56	-	100	24	80	63	M8	34	125	1/2	16	70	M18	97,5	38	15	58	35	81	177
125	70	-	125	24	80	63	M8	34	160	1/2	16	80	M20	125	40	15	63	35	93	198

Mounting styles 2 and 6: rectangular flange at head (in mm)

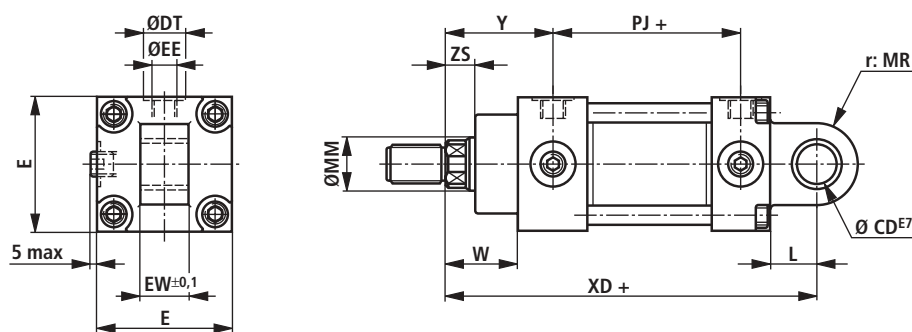
HVBS to CNOMO 05.07.67



HVBD sensor rod: see page 4

Mounting styles 4 and 8: self-aligning clevis at base (in mm)

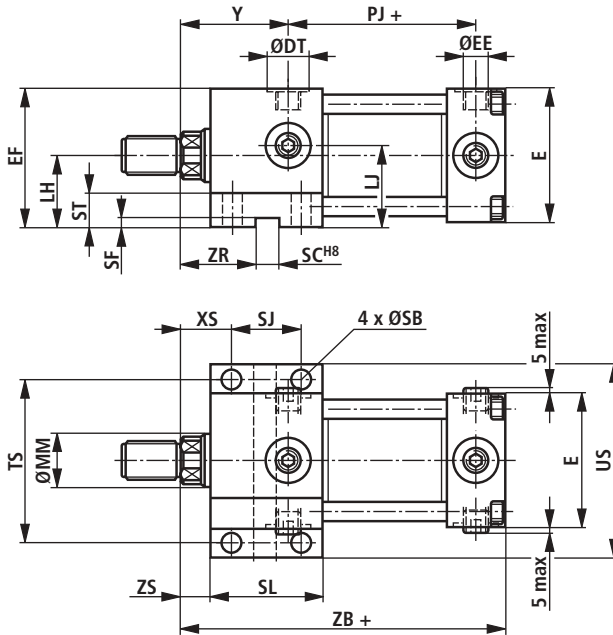
HVBS to CNOMO 05.07.69



AL	MM	B	CD	DT	E	EE	EW	L	MR	PJ	RB	TF	UF	W	WF	XD	Y	ZB	ZS
Ø	Ø	e9	E7				± 0,1												
25	16	36	12	19	45	1/8	16	20	14	34	34	56	70	28	16	112	46	92	12
32	18	40	12	19	56	1/8	16	20	14	45	36	71	86	32	16	122	48	102	12
40	22	45	16	25	63	1/4	20	25	16	45	45	80	100	40	20	140	55	115	15
50	28	56	20	25	75	1/4	25	25	20	53	50	95	115	40	16	150	57	125	12
63	36	63	25	28	85	3/8	32	32	25	56	65	104	124	45	21	177	71	145	17
80	45	80	32	28	106	3/8	40	40	32	63	80	132	160	50	22	192	74	152	18
100	56	100	40	34	125	1/2	50	56	40	70	98	155	185	58	24	233	81	177	20
125	70	125	50	34	160	1/2	63	63	50	80	125	195	230	63	27	261	93	198	23

Mounting styles 3 and 7: foot mounting at head (in mm)

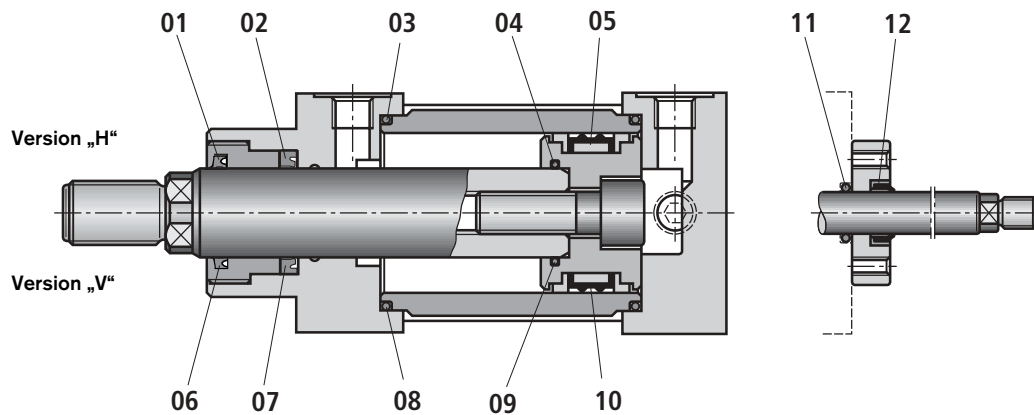
HVBS to CNOMO 05.07.68



HVBD sensor rod: see page 4

AL	MM	DT	E	EE	EF	LH	LJ	PJ	SB	SC	SF	SJ	SL	ST	TS	US	XS	Y	ZB	ZR	ZS
Ø	Ø									H8											
25	16	19	45	1/8	47.5	25	30	34	6.6	12	4	32	45	12	56	70	18.5	46	92	28.5	12
32	18	19	56	1/8	59	31	32	45	9	12	4	32	50	12	71	86	21	48	102	31	12
40	22	25	63	1/4	67.5	36	45	45	11	12	6	36	55	20	80	100	24.5	55	115	36.5	15
50	28	25	75	1/4	80	42.5	45	53	11	12	6	40	60	20	95	115	22	57	125	36	12
63	36	28	85	3/8	87.5	45	57	56	14	16	6	45	70	25	104	124	29.5	71	145	44	17
80	45	28	106	3/8	109	56	60	63	18	16	6	50	80	25	132	160	33	74	152	50	18
100	56	34	125	1/2	129.5	67	70	70	20	16	6	56	90	32	155	185	37	81	177	57	20
125	70	34	160	1/2	162	82	82	80	22	20	6	63	100	36	195	230	41.5	93	198	63	23

Spare parts



AL Ø	Seal version			Tightening torque Nm
	H	V	H	
	Pos. 01 – 05	Pos. 06 – 10	Pos. 11 + 12	
25	1 817 010 900	1 817 010 908	7472 Z0Z 850	6,5
32	1 817 010 901	1 817 010 909	7472 Z0Z 850	16
40	1 817 010 902	1 817 010 910	7472 Z0Z 851	31
50	1 817 010 903	1 817 010 911	7472 Z0Z 851	35
63	1 817 010 904	1 817 010 912	7472 Z0Z 852	60
80	1 817 010 905	1 817 010 913	7472 Z0Z 852	90
100	1 817 010 906	1 817 010 914	7472 Z0Z 853	200
125	1 817 010 907	1 817 010 915	7472 Z0Z 853	320

Weight (in kg)

AL Ø	Mounting style				Stroke 100 mm
	1 / 5	2 / 6	3 / 7	4 / 8	
25	1.0	1.2	1.1	1.1	0.55
32	1.7	2.2	1.8	1.8	0.70
40	2.5	3.3	2.7	2.7	0.90
50	3.5	4.7	3.8	3.8	1.50
63	5.3	6.7	5.8	5.8	2.30
80	8.6	10.8	9.4	9.6	3.80
100	14.0	18.0	15.3	16.2	5.60
125	26.0	33.0	27.8	30.6	8.90

Notes

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