



Flexible double clamping system DF, mechanical-hydraulic and hydraulic



Flexible double clamping systems are used for clamping two workpieces of equal or different size, allowing them to be machined in one operation. Using several systems arranged in a row, large workpieces, which require several clamping points, may be clamped in an effective and user-friendly manner.

These systems are available as a mechanical-hydraulic version for manual clamping and unclamping and as a hydraulic version with individually designed controls and separate hydraulic power unit. Flexible double clamping systems are designed to ideally suit machine-specific conditions (planned variations). This guarantees full use of the machine's area of work.

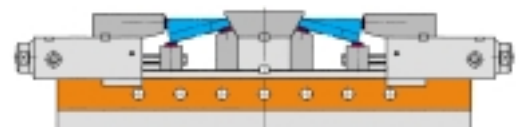
- ◆ Individual adjustment of the two clamping ranges
- ◆ For achieving large clamping ranges the central jaw may be installed in the end position (planned variations)
- ◆ Constant zero point of the central jaw ensured by mutual clamping force compensation
- ◆ Positioning and fastening in keyways across the length and in grid holes, respectively
- ◆ Individually designed controls combined with the hydraulic power unit (hydraulic version)
- ◆ Various standard and special jaws for adaptation to specific clamping applications



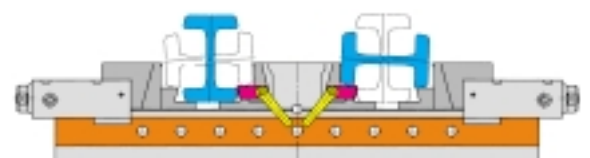
Hydraulically operated clamping system

1. Precise adjustment of the clamping range using the crank handle
2. Stepped jaws (optional extras) may be changed for workpiece-specific jaws
3. The hydraulic system is accommodated inside the slide, and is therefore well-protected and maintenance-free
4. Individually adjustable clamping ranges for clamping differently sized workpieces
5. Threaded holes for workpiece stop
6. Coarse adjustment of the clamping range using a socket pin
7. Hydraulic port either right- or left-hand.
8. Clamping edge for clamping claws.

Examples of practical applications:

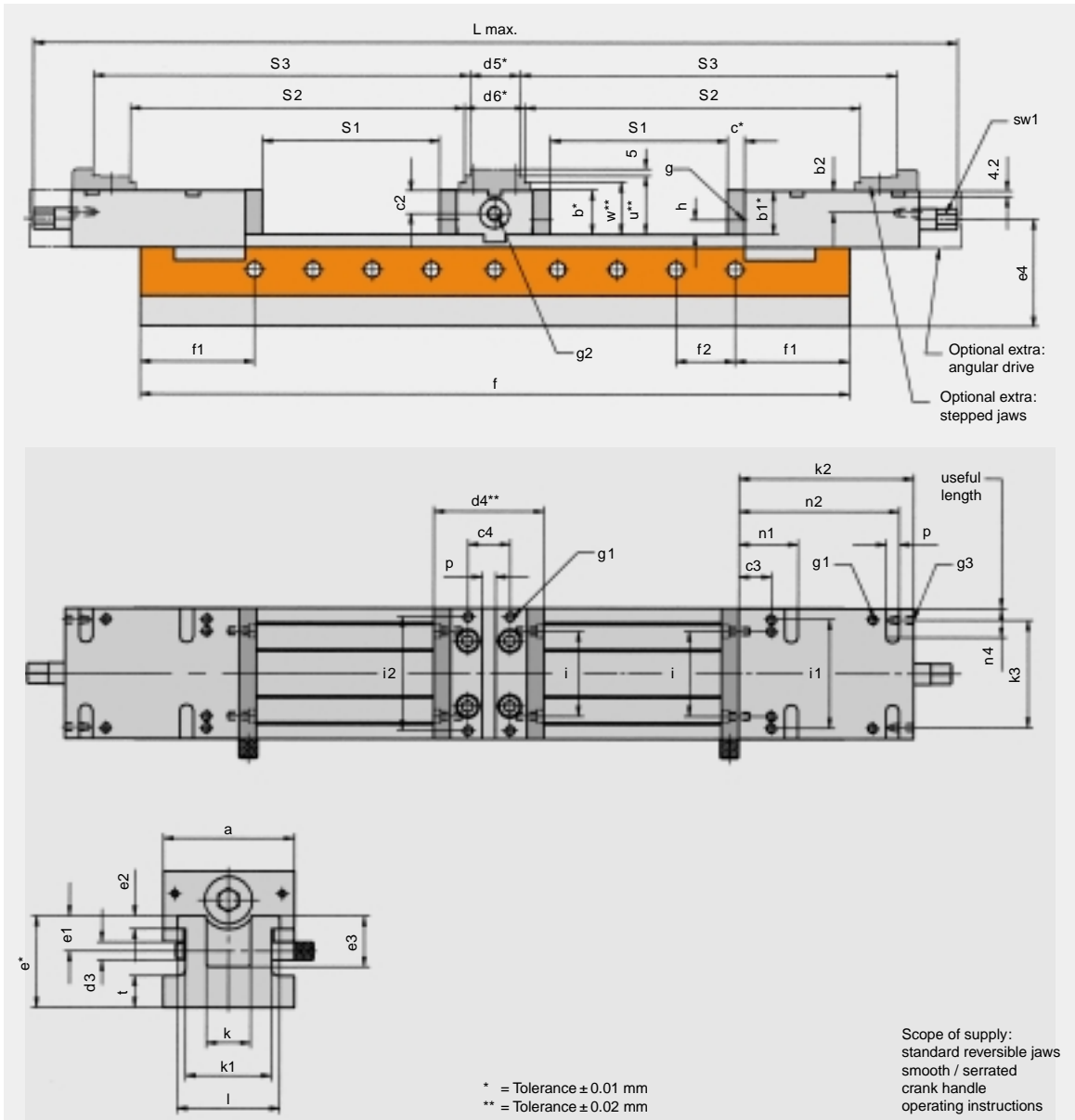


Double clamping system with hydraulically operated compensation jaws and special jaw inserts for clamping casing covers to suit the machining operation.



Double clamping system with Q.I.S. quick-insert jaws and attachments for clamping differently sized sections. Set-up times are reduced to a minimum.

Technical data DF-M, mechanical-hydraulic



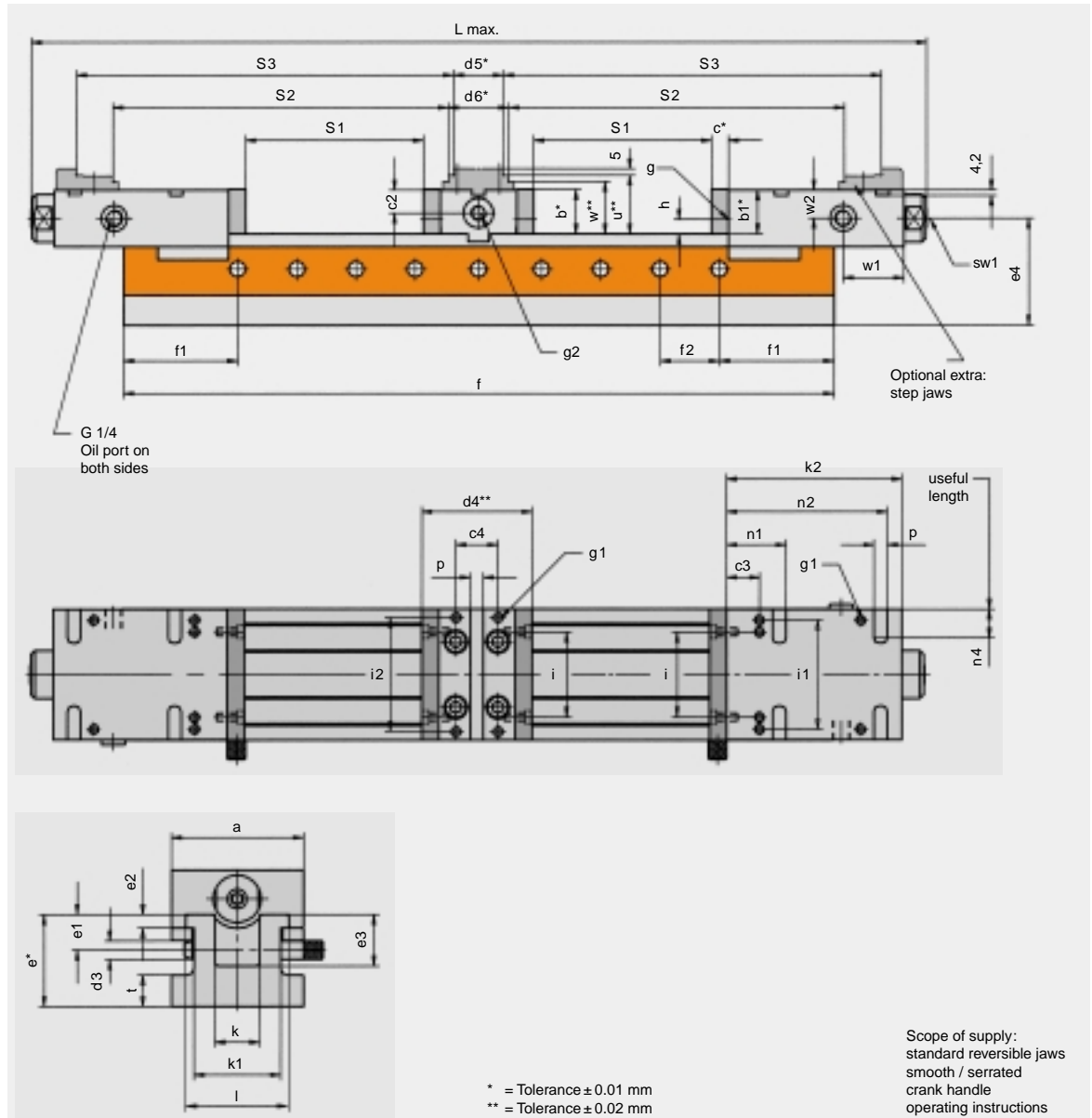
Part no.	Type	Jaw width	Clamping force	Effort on the crank Crank throw	Jaw opening			Overall length	Weight	
		a			S1	S2	S3			
		mm	kN	N	mm	mm	mm	mm	kg	
9.3422.0103	DF 100M	100	25	50	80	130	248	279	700	29.5
9.3423.0103	DF 125M	125	40	75	100	122	249	288	746	44
9.3423.0203	DF 125M	125	40	75	100	205	332	371	912	50
9.3424.0103	DF 160M	160	50	95	125	188	357	397	1010	86

Dimensions in mm																	
a	b	b1	b2	c	c2	c3	c4	d3	d4	d5	d6	e	e1	e2			
100	34	33.5	16.5	13	17.5	25	26	12	84	44	50	70	27	10			
125	45	44	22	15	23	30	30	16	100	50	60	82	33	13			
125	45	44	22	15	23	30	30	16	100	50	60	82	33	13			
160	54	53	28	18	27	45	38	20	126	70	80	95	38	15			

Dimensions in mm																											
Part no.	Type	e3	e4	f	f1	f2	g	g1	g2	g3	h	i	i1	i2	k	k1	k2	k3	l	n1	n2	n4	p	sw1	t	u	w
9.3422.0103	DF 100M	39	82	540	90	45	M 6 x 8	M 8 x12	M12x18	M 6x11	11	65	83	80	34	65.5	133	82	78g6	45	122	22	10H7	14	24	45	40
9.3423.0103	DF 125M	49	98	560	108	43	M 8 x10	M10x13	M12x18	M10x14	14	80	104	96	45	84.5	147	96	98g6	56	132	31	12H7	17	27	58	53
9.3423.0203	DF 125M	49	98	720	105	51	M 8 x10	M10x13	M12x18	M10x14	14	80	104	96	45	84.5	147	96	98g6	56	132	31	12H7	17	27	58	53
9.3424.0103	DF 160M	57	115	750	123	63	M10x11	M12x16	M20x27	M10x14	17	100	130	130	60	104.5	189	126	125g6	73	171	37	18H7	19	27	70	65



Technical data DF-H, hydraulic operation



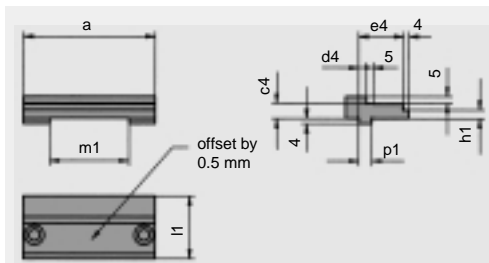
Part no.	Type	Jaw width		Clamping force		Power stroke		Jaw opening			Overall length	Weight
		a	mm	kN	bar	mm	cm ³	S1	S2	S3		
											L max.	kg
9.3432.0103	DF 100H	100	25	350	5	5	134	252	283	686	29.5	
9.3433.0103	DF 125H	125	40	350	5	7	125	252	291	730	44	
9.3433.0203	DF 125H	125	40	350	5	7	208	335	374	896	50	
9.3434.0103	DF 160H	160	63	350	7	14	193	362	402	994	86	

Dimensions in mm															
a	b	b1	c	c2	c3	c4	d3	d4	d5	d6	e	e1			
100	34	33.5	13	17.5	25	26	12	84	44	50	70	27			
125	45	44	15	23	30	30	16	100	50	60	82	33			
125	45	44	15	23	30	30	16	100	50	60	82	33			
160	54	53	18	27	45	38	20	126	70	80	95	38			

Dimensions in mm																												
Part no.	Type	e2	e3	e4	f	f1	f2	g	g1	g2	h	i	i1	i2	k	k1	k2	l	n1	n2	n4	p	sw1	t	u	w	w1	w2
9.3432.0103	DF 100H	10	39	82	540	90	45	M 6x 8	M 8x12	M12x18	11	65	83	80	34	65.5	133	78g6	45	122	22	10H7	8	24	45	40	41	21.5
9.3433.0103	DF 125H	13	49	98	560	108	43	M 8x10	M10x13	M12x18	14	80	104	96	45	84.5	147	98g6	56	132	31	12H7	8	27	58	53	27	30
9.3433.0203	DF 125H	13	49	98	720	105	51	M 8x10	M10x13	M12x18	14	80	104	96	45	84.5	147	98g6	56	132	31	12H7	8	27	58	53	27	30
9.3434.0103	DF 160H	15	57	115	750	123	63	M10x11	M12x16	M20x27	17	100	130	130	60	104.5	189	125g6	73	171	37	18H7	10	27	70	65	57	32

You will find other clamping jaws and jaw systems for the use with double clamping systems in group 1 'Machine Vices and systems', page 24

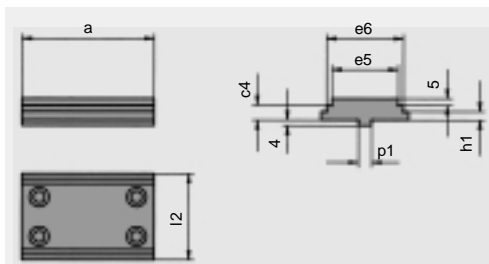
Accessories



Step jaws for slide

For achieving large clamping ranges, including fastening screws

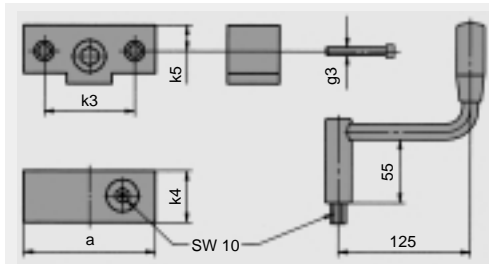
Part no.	Dimensions in mm							
	a	c4	d4	e4	h1	l1	m1	p1
9.3284.1201	100	11.5	6	34	6.5	48	60	10h6
9.3284.1301	125	14	6	40	9	58	65	12h6
9.3284.1401	160	17	8	43	12	64	88	18h6



Step jaws for fixed jaw

For achieving large clamping ranges, including fastening screws

Part no.	Dimensions in mm						
	a	c4	e5	e6	h1	l2	p1
9.3284.2201	100	11.5	44	50	6.5	57	10h6
9.3284.2301	125	14	50	60	9	69	12h6
9.3284.2401	160	17	70	80	12	89	18h6



Angular drive

Including crank handle and fastening screws. Maintenance-free. Recommended when normal operation is difficult or impossible. Ideal for retrofit to existing systems

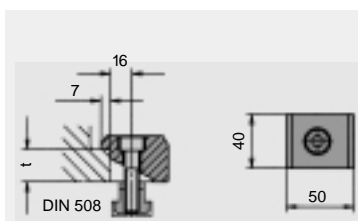
Part no.	for type	Dimensions in mm					Weight kg
		a	g3	k3	k4	k5	
9.3294.0505	DF 100 M	100	M 6	82	39	19.5	1.6
9.3294.0605	DF 125 M	125	M 10	96	43	23	2.3
9.3294.0705	DF 160 M	160	M 10	126	46	29	3.4



Set of key blocks DIN 6323 (2 blocks = 1 set)

Part no.	Keyway b3
9.3917.4121	14 mm
9.3917.4141	18 mm

For exact adjustment of the universal NC machine vice, the key blocks are simply inserted in the keyway on the machine bed.



Set of clamping claws including screws

For safe clamping of the workpiece on the machine bed

Part no. (for 4 OFF)	Keyway mm	t mm	Screw
9.3777.2011	14	24	M 12 x 45 DIN 912
9.3777.3011	14	27	M 12 x 45 DIN 912
9.3777.3021	18	27	M 16 x 50 DIN 912



Hydraulic pump unit for hydraulically operated flexible double clamping system DF, on request

1-circuit design for simultaneous clamping and unclamping of one or several double clamping systems. With a plug-in type remote pendant.

2-circuit design, for individual control of two separate circuits (pendulum machining). Including 2 remote pendants.

Basic unit without directional valves and remote pendant. The double clamping system is externally controlled by means of hand valves.

Whether producing small or large batches or large workpieces:
HILMA double clamping systems are suitable for many possible applications.



You will find our compact clamping systems DS mechanical or hydraulically operated in group 1 'Machine Vices and systems', page 14-19.



This page may be used as a pattern for copying

Planned Variants DF

Customers' requests concerning design, positioning and fastening are met using basic standard versions. Please determine parameters and advise us accordingly together with your enquiry or order.

Enquiry Order Quantity = _____

Parameter - size

9.3422.7003 DF 100 (Jaw width 100 mm) 9.3423.7003 DF 125 (Jaw width 125 mm) 9.3424.7003 DF 160 (Jaw width 160 mm)

Parameter - length of base

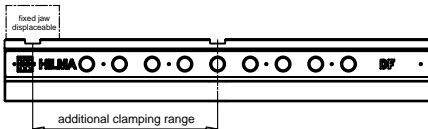
540 long (DF 100) 560 long (DF 125) 720 long (DF 125) 750 long (DF 160)

Parameter - slide 1+2 with upper T-slot (2 pc.)

mechanical-hydraulic without pressure gauge mechanical-hydraulic pressure gauge right-hand mechanical-hydraulic pressure gauge left-hand hydraulic
Line of sight: spindle direction towards the fixed jaw!

Parameter jaw displaceable

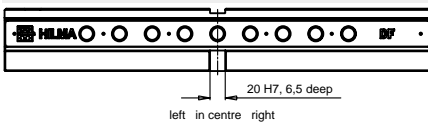
without slot external



with slot external for large clamping range (clamping ranges see page 8 + 9)

Parameter - keyway across the length

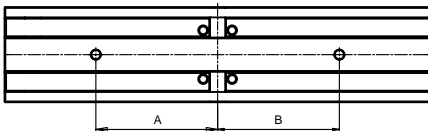
without keyway across the length



in centre ± 0.02
 leftside _____ mm ± 0.02
 rightside _____ mm ± 0.02

Parameter - positioning holes

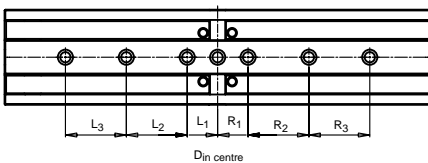
without positioning holes



12 H7
 16 H7 A = _____ mm ± 0.01
 18 G7 (for press fit bush 1.0179.0014)
 26 G7 (for press fit bush 1.0179.0017) B = _____ mm ± 0.01

Parameter - mounting grid

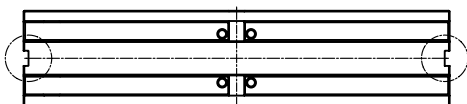
without mounting grid



KM 12 KM 16 (DIN 74) R₁ = _____ mm
L₁ = _____ mm R₂ = _____ mm
L₂ = _____ mm R₃ = _____ mm
L₃ = _____ mm D₀ = with without

Parameter - longitudinal slot

without longitudinal slot



with longitudinal slot 20 H7 6,5 mm deep

Parameter - angular drive (2 pc.)

without angular drive (separate sales item)

9.3294.0505 (DF 100) 9.3294.0605 (DF 125) 9.3294.0705 (DF 160)

Parameter - interchangeable jaws

without interchangeable jaws (separate sales item)

9.3284.1201 (2 pc.) 9.3284.2201 (DF 100) 9.3284.1301 (2 pc.) 9.3284.2301 (DF 125) 9.3284.1401 (2 pc.) 9.3284.2401 (DF 160)

(All dimensions refer to the middle of the base)

Date _____ Stamp _____ Signature _____