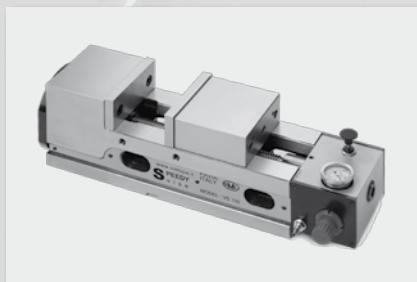


**CIVI
HYDRO**
pag. 13. 2

Multiple clamping system CIVI 2000 with hydraulic clamping unit



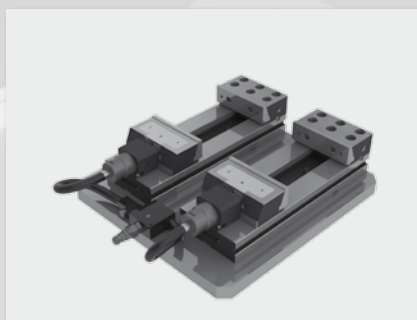
**SPEEDY
VISE**
pag. 13. 4

Pneumatic quick clamping equipment



SCV
pag. 13. 7

Pneumatic/hydraulic self centering vises



TC HYDRO SET
pag. 13. 14

Set of modular clamping equipment with hydraulic clamping unit

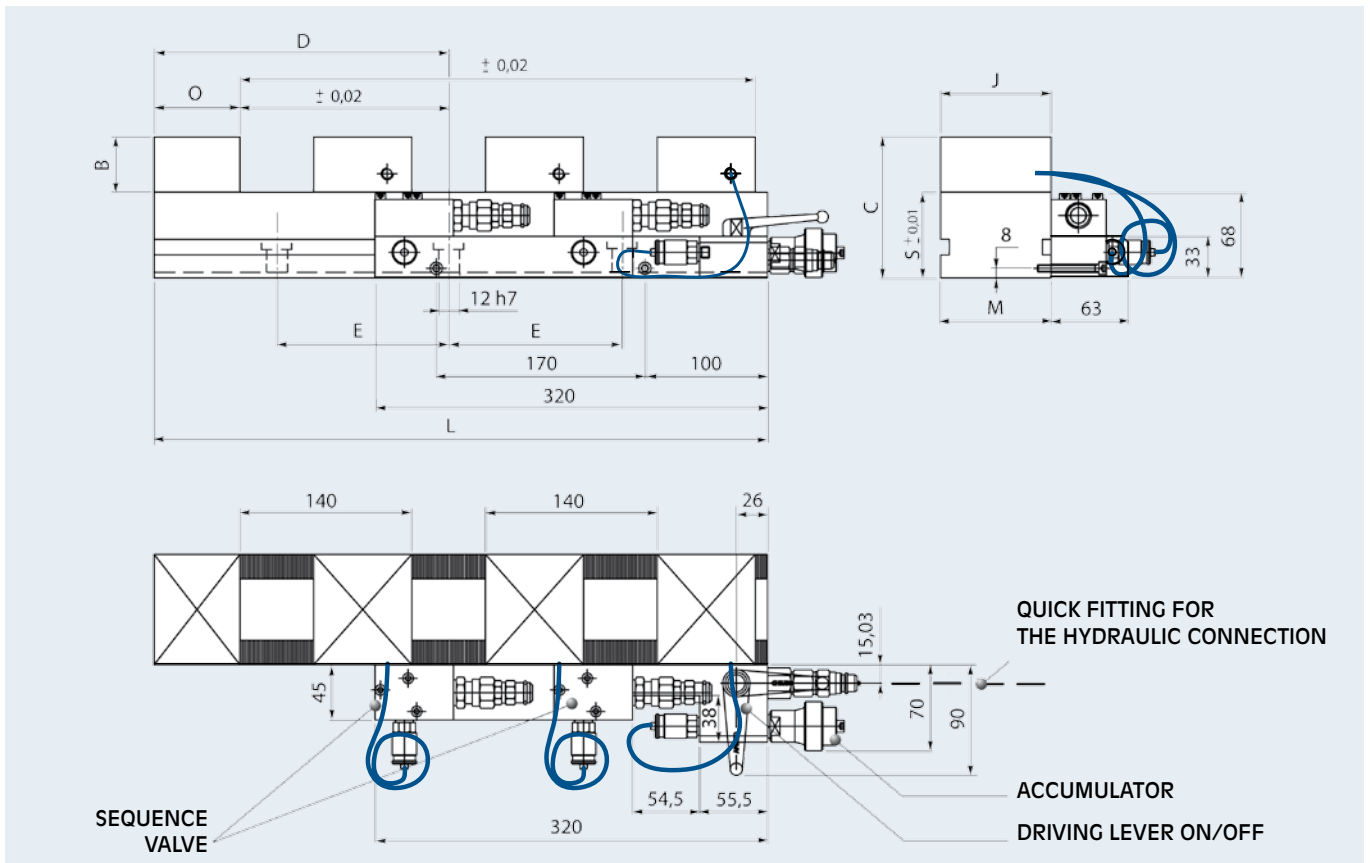
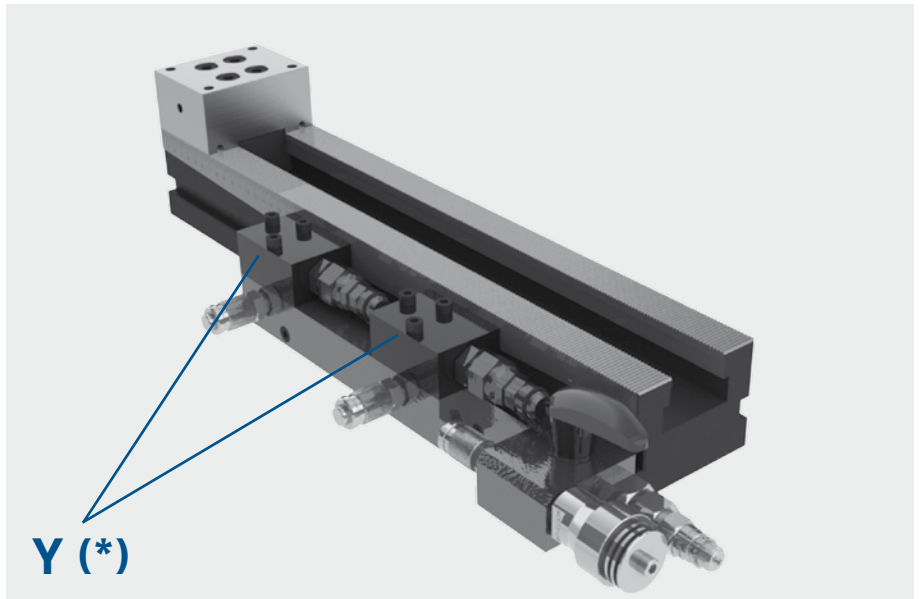
Set base CIVI HYDRO complete with:

1 base (length optional), 1 fixed support, 1 pair of positioning keys and 1 complete hydraulic unit for the hydraulic drive of the movable jaws.

(*) Y = number of sequence valves:

- for CIVI 2000/60 x 400, Y = 2
- for CIVI 2000/60 x 500, Y = 2
- for CIVI 2000/60 x 630, Y = 3

- for CIVI 2000/90 x 400, Y = 2
- for CIVI 2000/90 x 500, Y = 2
- for CIVI 2000/90 x 630, Y = 3



Code	for type	B mm	B mm	B mm	B mm	B mm	B mm	B mm	B mm	B mm	weight kg
77 58 41 16	CIVI 2000/60 x 400			200	100		100				9,5
77 58 41 17	CIVI 2000/60 x 500	40	100	250	150	60	150	60	60	60	11,5
77 58 41 18	CIVI 2000/60 x 630			315	200		200				13,5
77 58 42 16	CIVI 2000/90 x 400			200	100		100				16
77 58 42 17	CIVI 2000/90 x 500	45	115	250	150	90	150	90	70	70	19,5
77 58 42 18	CIVI 2000/90 x 630			315	200		200				23,5

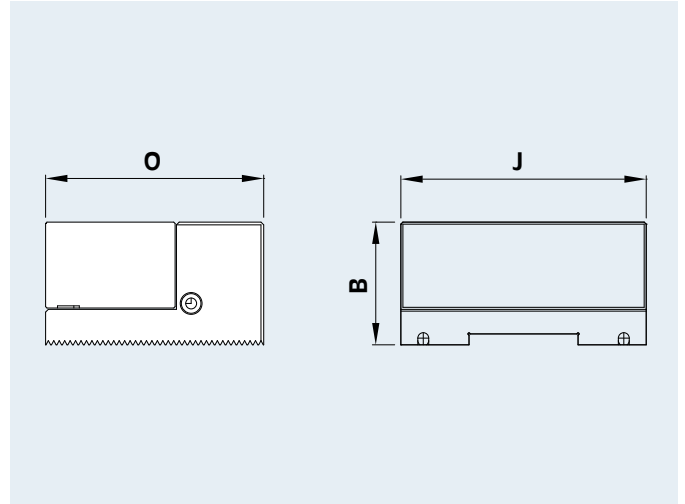
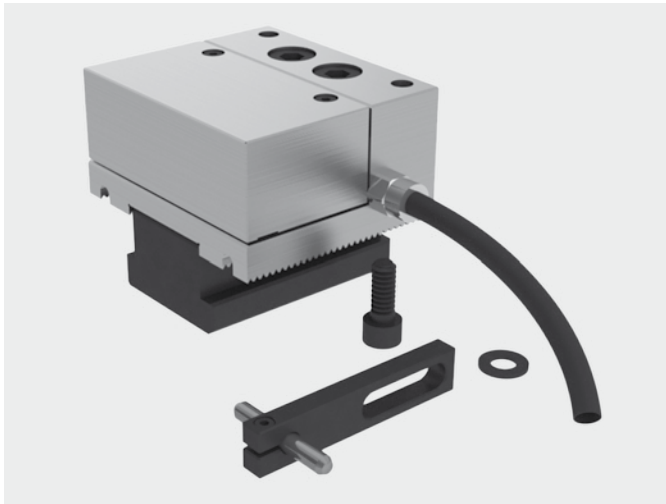
multiple clamping system CIVI 2000 with hydraulic clamping unit

CIVI HYDRO

13

Movable jaw set CIVI HYDRO smooth J60-J90 complete with:

1 movable slide-way, 1 work stop, 1 high-pressure pipe.



Code	for type	B mm	J mm	O mm	weight kg
77 58 41 43	CIVI 60-HY	40	60	70	1,4
77 58 42 43	CIVI 90-HY	45	90	80	2,9



Air/oil foot pump

Code

71 66 03 05

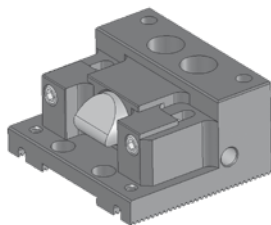


Air/oil manual pump

Code

71 66 03 15

- For accessories see group 6 (CIVI 2000)
- For clamping capacity see group 6 pag. 6,8
- Max clamping force at 350 bar = kg 1500 for CIVI 60 / kg 2000 for CIVI 90
- Max clamping stroke = mm 3



Jaw

code

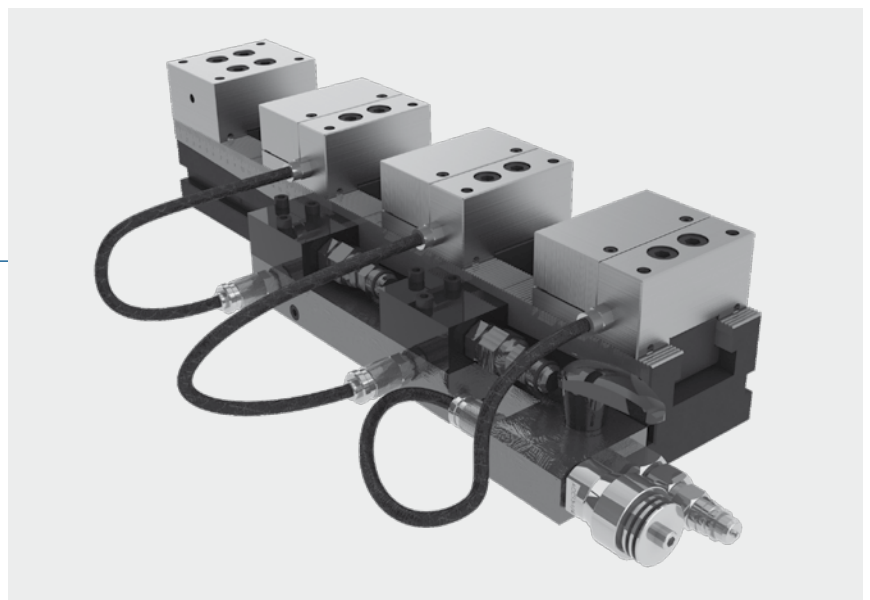
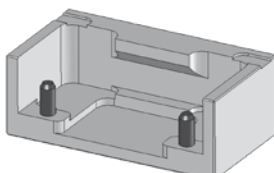
58 41 04 69

58 42 04 69

for type

CIVI 60-HY

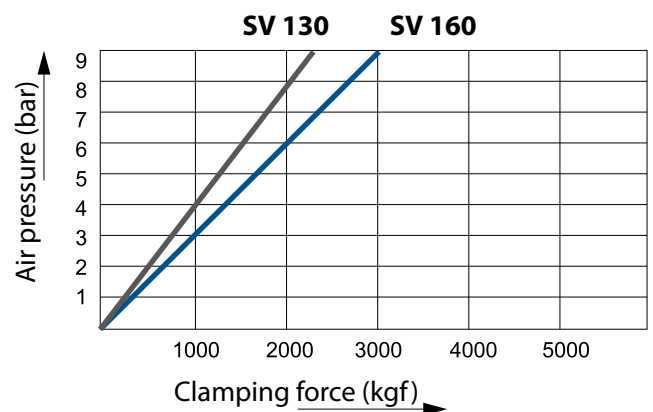
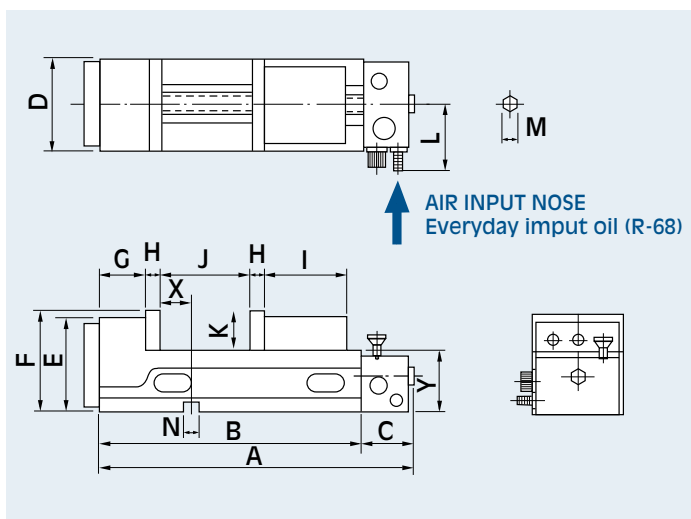
CIVI 90-HY



most suitable for mass production on machine centre

FEATURES

1. Robust construction of one piece casting of fixed jaw and vise bed.
2. Rigid and high tensile casting of ductile iron FCD60JIS (equal to GGG60) with 60 kg/mm² or 80.000 psi tensile strength.
3. Most suitable for mass production and to be used on machine centres, milling machines, drilling machines and special purpose machines.
4. Most compact pneumatic mechanism design. No oil, just joint the air supply will do.
5. Most compact in total length of vise with max clamping capacity.
6. Safety locking mechanism for unexpected termination of air supply. After pneumatic clamping, the workpiece will be clamped firmly even without the air supply.
7. Easy and simple ON-OFF switch control for pneumatic operation. The optional electric control for automatic and FMS system is available.
8. Safety protection max. pneumatic clamping stroke is 4 mm.
(Adjust the stroke at 2 mm for a better power capacity)
9. Rapid ON-OFF only 1,5 sec.
10. Multiply pneumatic Quick Vise set up available with only one source of air supply (optional).
11. Free adjusting of max. pneumatic clamping pressure (see graphs) using the air regulator placed nearby the pressure control gauge
12. Vise bed flame hardened to HRC 45°.
13. Down trust "semi-spherical segment" mechanism eliminates jaw lifting and workpiece.

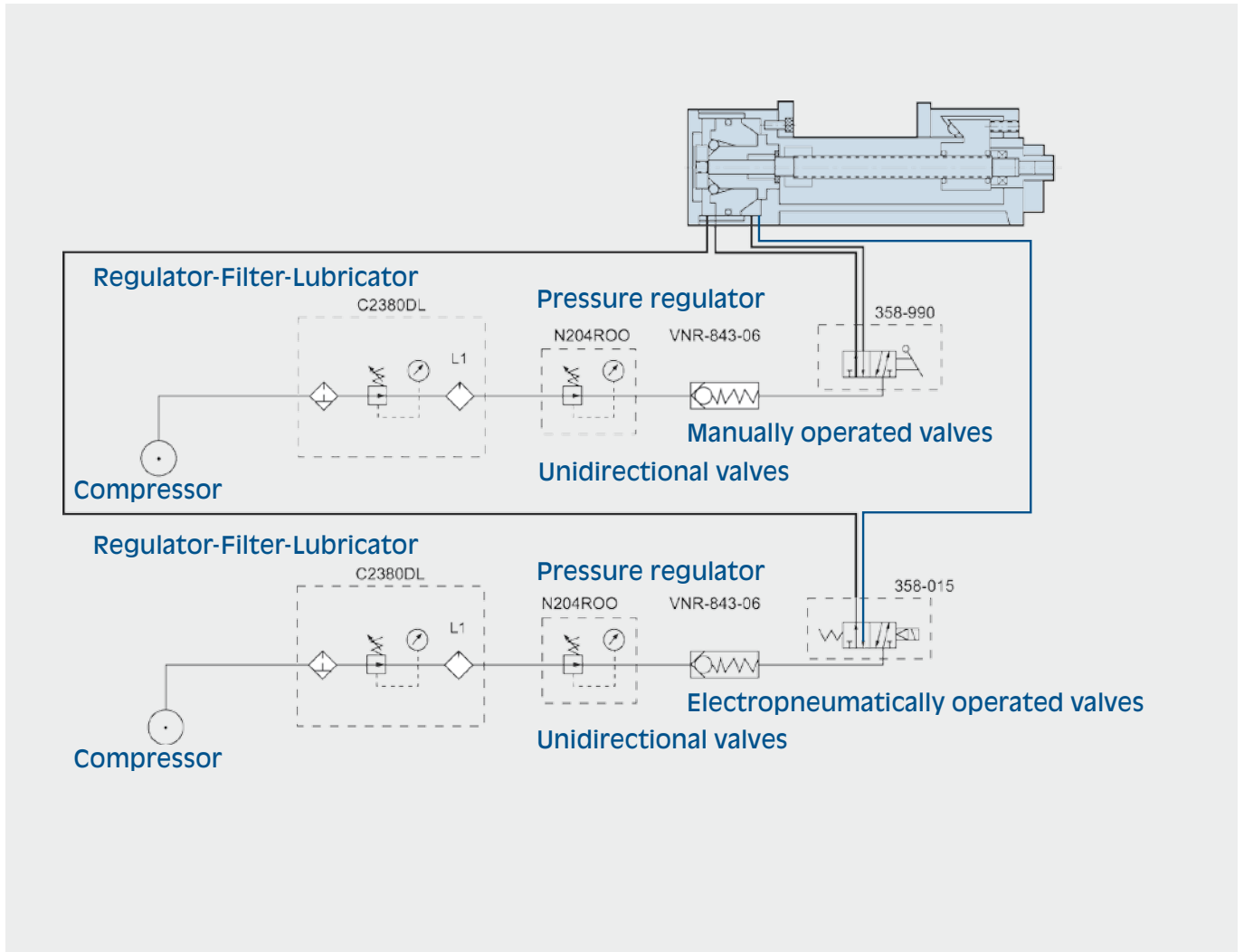


Code	type	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	K mm	L mm	M mm	N mm	X mm	Y mm
77 58 91 21	SV 130	507	405	102	131	152	155	100	15	115	0-140	55	95	14	18	65	100
77 58 92 21	SV 160	534	432	102	161	160	163	115	15	130	0-150	58	105	14	18	65	105

most suitable for mass production on machine centre

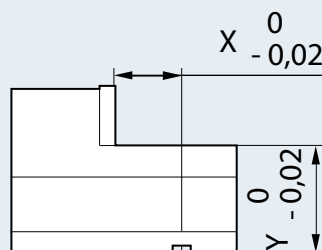


ALWAYS USE FILTERED COMPRESSED AIR. FOR FILTER-LUBRICATOR SEE PAG. 0.38



Code	type	power kN	air pressure bar	stroke mm	net weight kg	weight kg
77 58 91 21	SV 130	16	1,5 - 7	0 - 3	40	42
77 58 92 21	SV 160	21	1,5 - 7	0 - 4	52	55

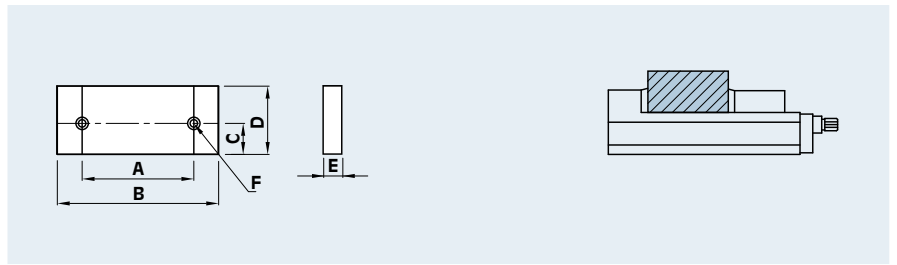
Tolerances



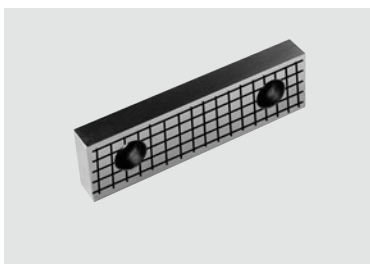
accessories



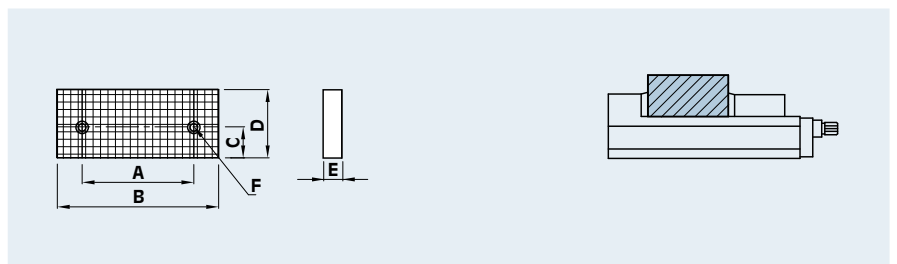
Pair of smooth jaws
(HRC 55°-58°)



Code	for type	A mm	B mm	C mm	D mm	E mm	F mm
58 91 41 19	SV 130		130	25	55	15	M10x20L
58 92 41 19	SV 160		160	25	58	15	M10x20L

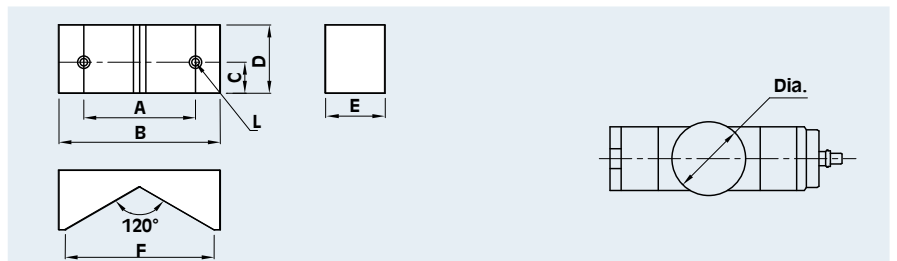


Pair of grooved jaws
(HRC 55°-58°)



Code	for type	A mm	B mm	C mm	D mm	E mm	F mm
58 91 42 19	SV 130	90	130	25	55	15	M10x20L
58 92 42 19	SV 160	90	160	25	58	15	M10x20L

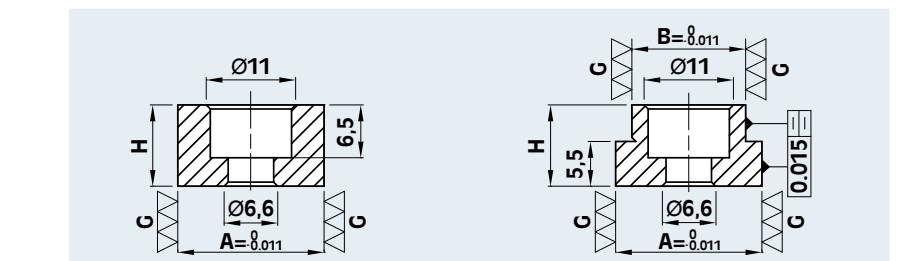
Pair of V jaws
(HRC 55°-58°)



Code	for type	A mm	B mm	C mm	D mm	E mm	F mm	L mm	dia. mm
58 91 44 19	SV 130	90	130	25	55	48	120	M10x16L	100-230
58 92 44 19	SV 160	90	160	25	58	48	120	M10x16L	100-230

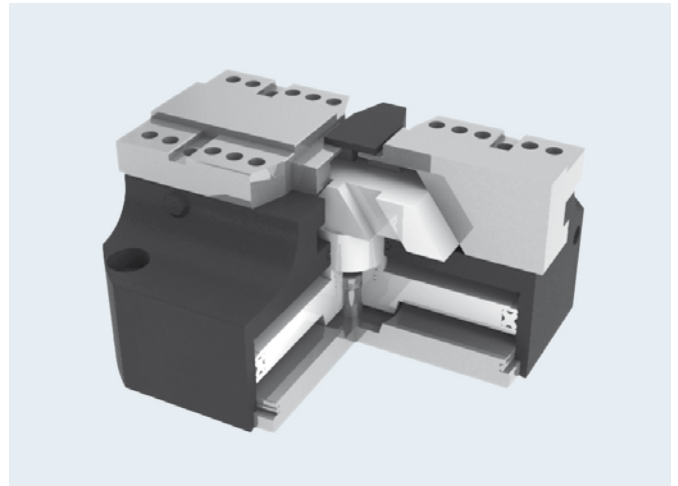
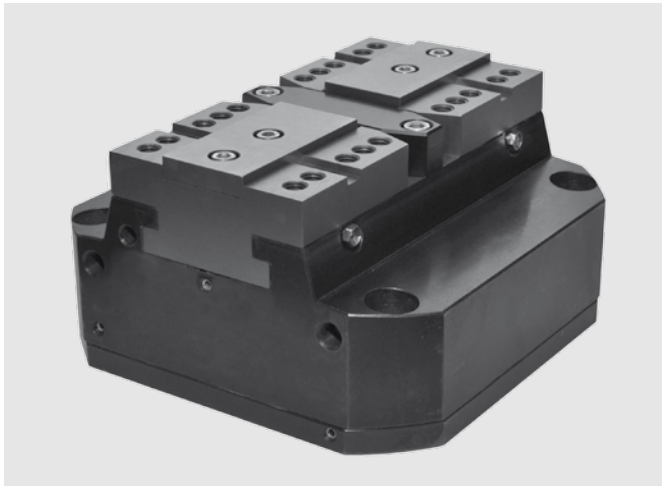


Pair of positioning keys



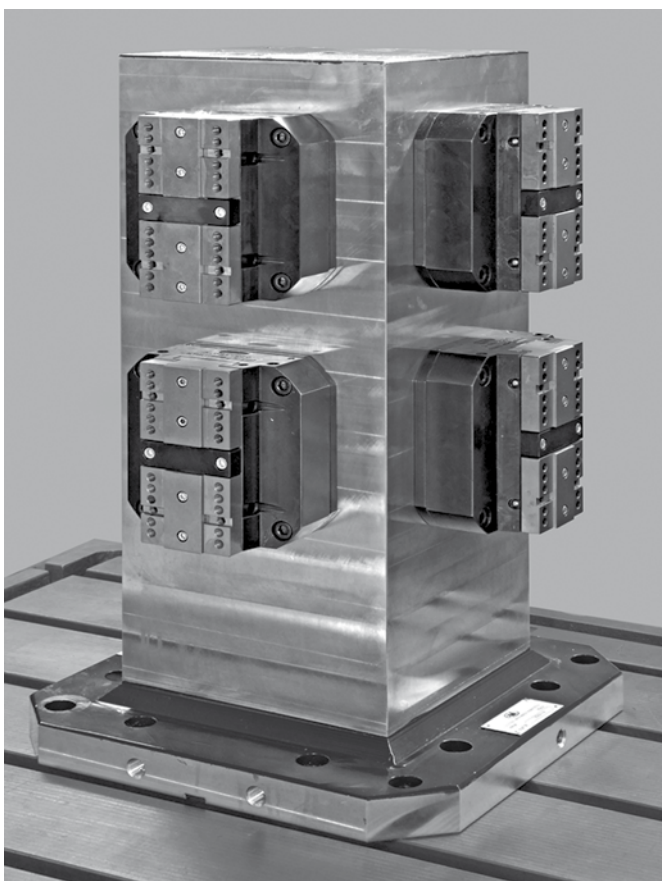
Code	for type	A mm	B mm	H mm	L mm
58 90 13 92		18	12	10	25
58 90 13 93	SV 130	18	14	10	25
58 90 13 94		18	16	10	25
58 90 13 96		18	20	10	25
58 90 13 97	SV 160	18	22	10	25
58 90 13 95		18	18	10	22

Self centering vise pneumatic-hydraulic, SCV P/H

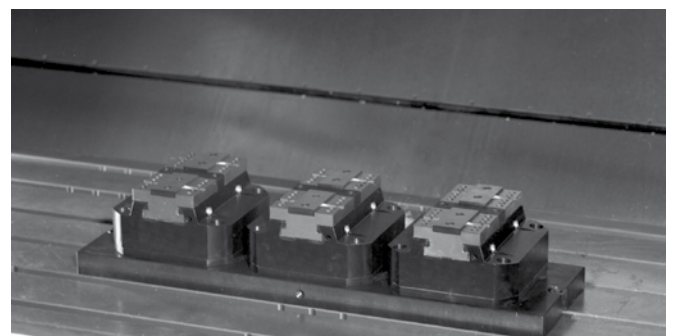


TECHNICAL DATA

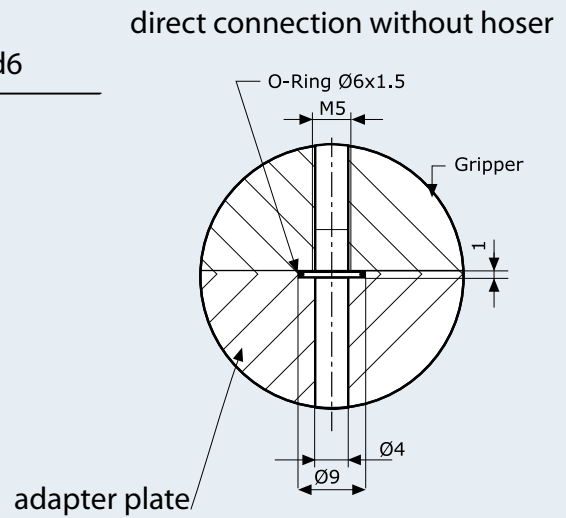
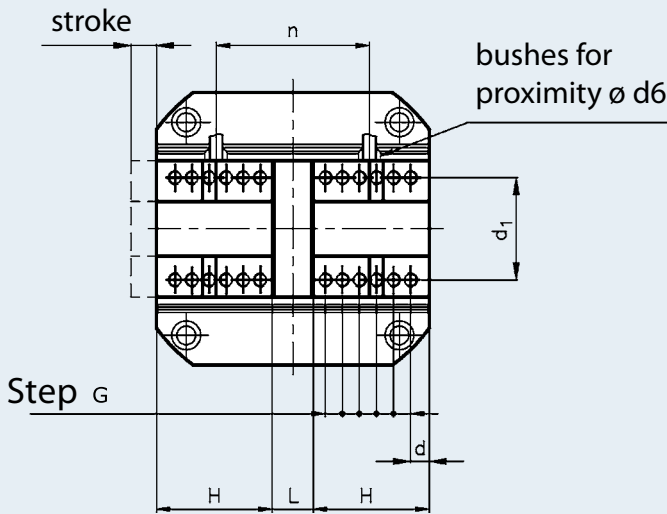
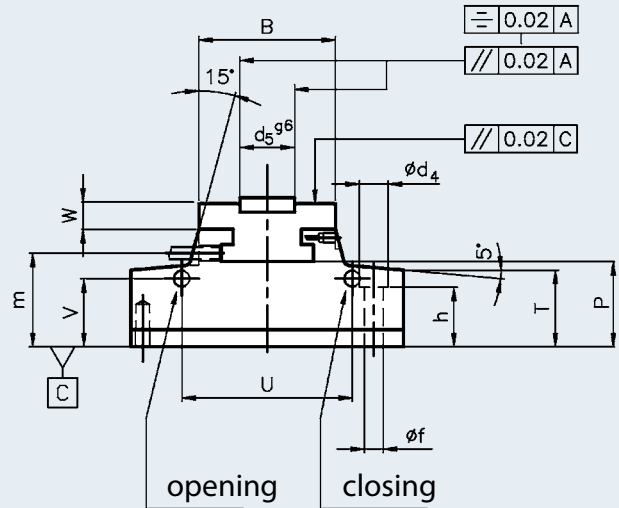
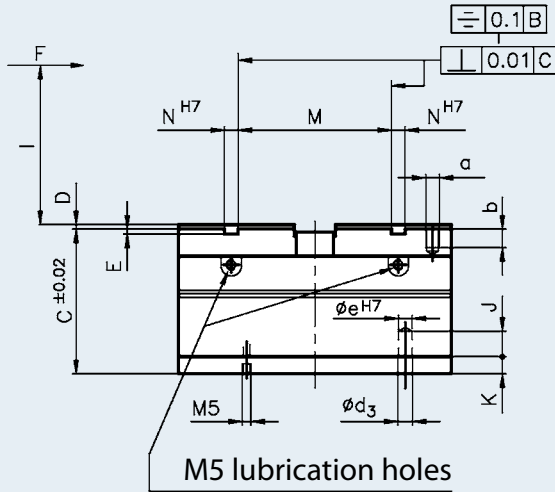
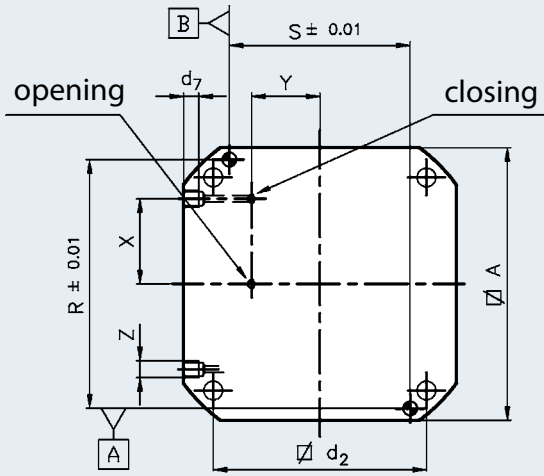
- Operating pressure range: 6 bar with air / max 60 bar with oil
- Repeatability accuracy: SCV 100 = 0,01 mm / 100
SCV 160-250 = 0,02 mm / 100
- Operating temperature range: from 5 °C to 60 °C
- Operating principle: wedge and piston design with mechanically restricted guidance
- Stroke range: from 8,4 to 20 mm
- Mounting: by means of bores for H7 pins
- Housing material: hardened steel
- Material for functional parts: hardened steel
- Actuation: filtered hydraulic oil (10 mm) , viscosity 46 mm²/s a 40 °C
ISO VG max 60 °C; compressed air (10 mm), dry or lubricated



- Connections: sides-bases
- Maintenance: relubricated via lubrication-nipples every 5.000 cycles for tool clamping, every 100.000 in handling
- Options: proxy switch adjustment
serrated fingers



Working example



SCV P/H (Pneumatic/Hydraulic)

Type	A	B	C	D	E	G	H	L	M	N	P	R	S	T	U	V	Z	X	Y	W	J
SCV 100 P/H	102	52	68	2.5	2.5	7x4	41	20	52	6	41.5	92	66	40.5	60	34	M5	30	33	11	12
SCV 160 P/H	162	82	88	3	3	10x5	69	24	94	8	53	148	108	51	102	44	1/8	51	42	16	15
SCV 200 P/H	200	100	91	3	3.5	10x7	88	24	92	8	54.5	186	130	52	124	45	1/8	62	55	16	14
SCV 250 P/H	254	128	100	3	4	12x7	112	30	116	10	61	232	156	58	154	51	1/8	77	66	18	16

Type	K	a	b	d	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₇	e	f	h	l	m	n	stroke for jaws	
																		C1	C2
SCV 100 P/H	8	M6	8	8	36	82	6.5	13.5	22	M5	5	6	8.5	33	19	45.5	56	6	2.3
SCV 160 P/H	10	M8	11	10	62	128	8.5	17	34	M8	9	8	11	41	30	58	90	8	3.1
SCV 200 P/H	11	M8	11	10	74	160	8.5	19	40	M8	9	8	13	42	38	60	110	9	3.5
SCV 250 P/H	12	M10	14	16	92	202	11	19	48	M8	9	10	13	47	45	66.5	140	10	3.9

SCV-P (Pneumatic)

Code	Type	stroke for jaw		gripping force at 6 bar		approx. time (sec)		air consumption for double stroke (cm ³)	max. suggested workpiece mass (Kg)		mass vise (kg)	max. jaws length (mm)
		C1	C2	cod. 1 (N)	cod. 2	opening	closing		cod. 1	cod. 2		
30 50 10 05	SCV 100 P	6		3800		0.2	0.2	120	28		3.0	75
30 50 10 06	SCV 160 P	8		9000		0.4	0.4	405	67		8.9	70
30 50 10 07	SCV 200 P	9		13000		0.85	0.85	700	100		15.6	80
30 50 10 08	SCV 250 P	10		19000		1.2	1.2	1300	150		27.0	140
30 50 30 05	SCV 100 P		2,3	8800		0.2	0.2	120		66	3.0	75
30 50 30 06	SCV 160 P		3,1	21000		0.4	0.4	405		160	8.9	70
30 50 30 07	SCV 200 P		3,5	32000		0.85	0.85	700		240	15.6	80
30 50 30 08	SCV 250 P		3,9	51000		1.2	1.2	1300		255	27.0	140

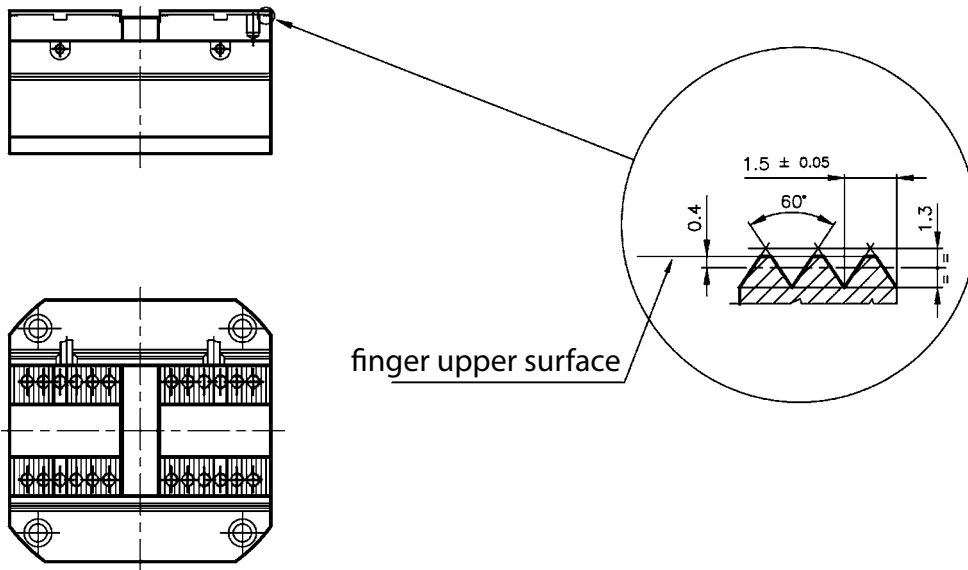
Transportable weight calculated with $\mu = 0.1$ and $f_s = 2$. With form-fit gripping the mass may be greater. The gripping force is the arithmetic sum of the individual forces created at the fingers at "l" mm distance at 0.6 MPa

SCV-H (Hydraulic)

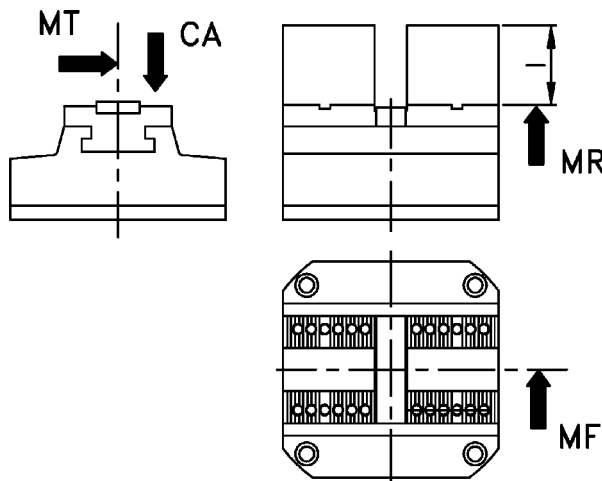
Code	Type	stroke for jaw (mm)		gripping force at 60 bar (N)		approx. time (sec)		oil consumption for double stroke (cm ³)	max. suggested workpiece mass (Kg)		mass vise (kg)	max. jaws length (mm)
		C1	C2	cod. 1	cod. 2	opening	closing		cod. 1	cod. 2		
30 50 20 05	SCV-H 100	6		5500		0.8	0.8	20	28		3.0	60
30 50 20 06	SCV-H 160	8		13000		1.3	1.3	60	65		8.9	55
30 50 20 07	SCV-H 200	9		20000		1.8	1.8	115	100		15.6	70
30 50 20 08	SCV-H 250	10		31000		2.1	2.1	135	150		27.0	120
30 50 40 05	SCV-H 100		2,3	13000		0.8	0.8	20		65	3.0	60
30 50 40 06	SCV-H 160		3,1	34000		1.3	1.3	60		170	8.9	55
30 50 40 07	SCV-H 200		3,5	47000		1.8	1.8	115		235	15.6	70

Transportable weight calculated with $\mu = 0.1$ and $f_s = 2$. With form-fit gripping the mass may be greater. The gripping force is the arithmetic sum of the individual forces created at the fingers at "l" mm distance at 6 MPa

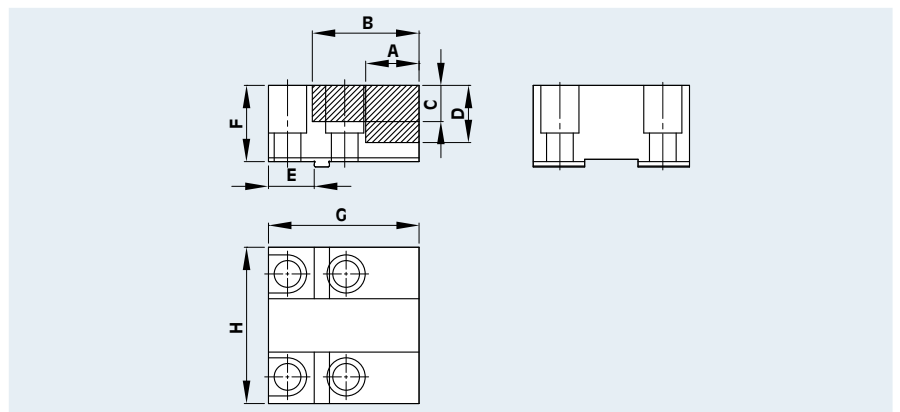
VERSION WITH SERRATION ON REQUEST



ALLOWED LOAD DATA



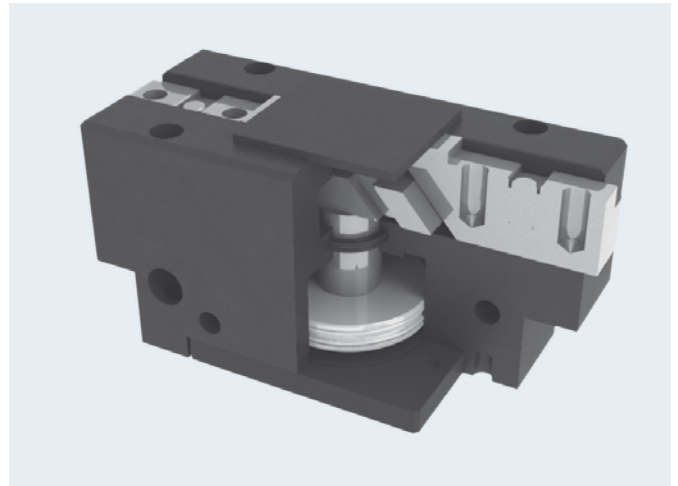
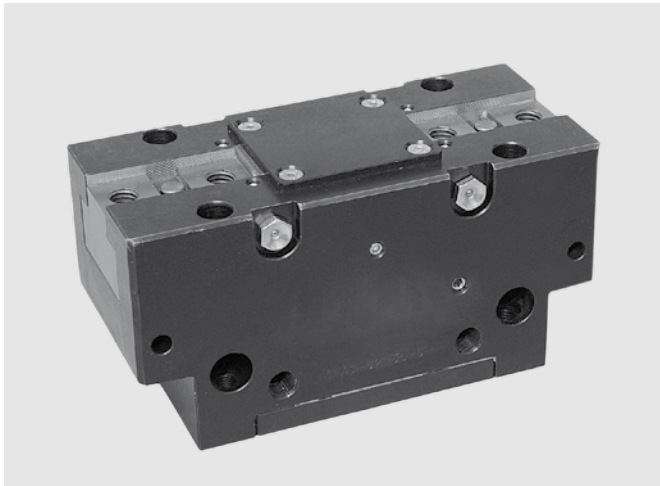
Type	CA (N)	MR (Nm)	MF (Nm)	MT (Nm)
SCV 100	2500	70	120	140
SCV 160	18000	100	250	200
SCV 200	22000	120	250	240
SCV 250	24500	140	250	270



SCV SOFT JAWS

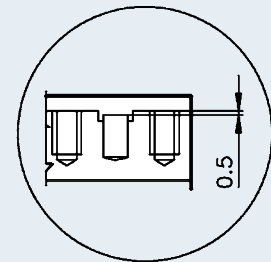
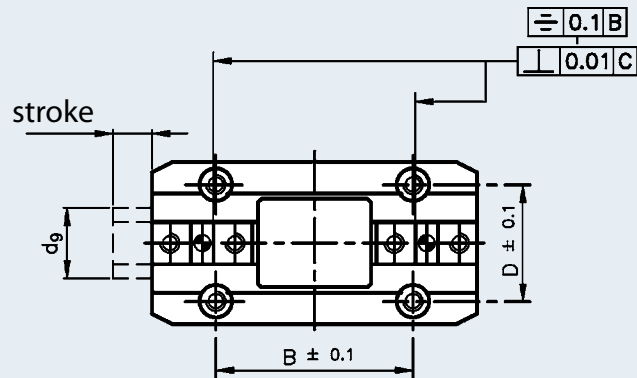
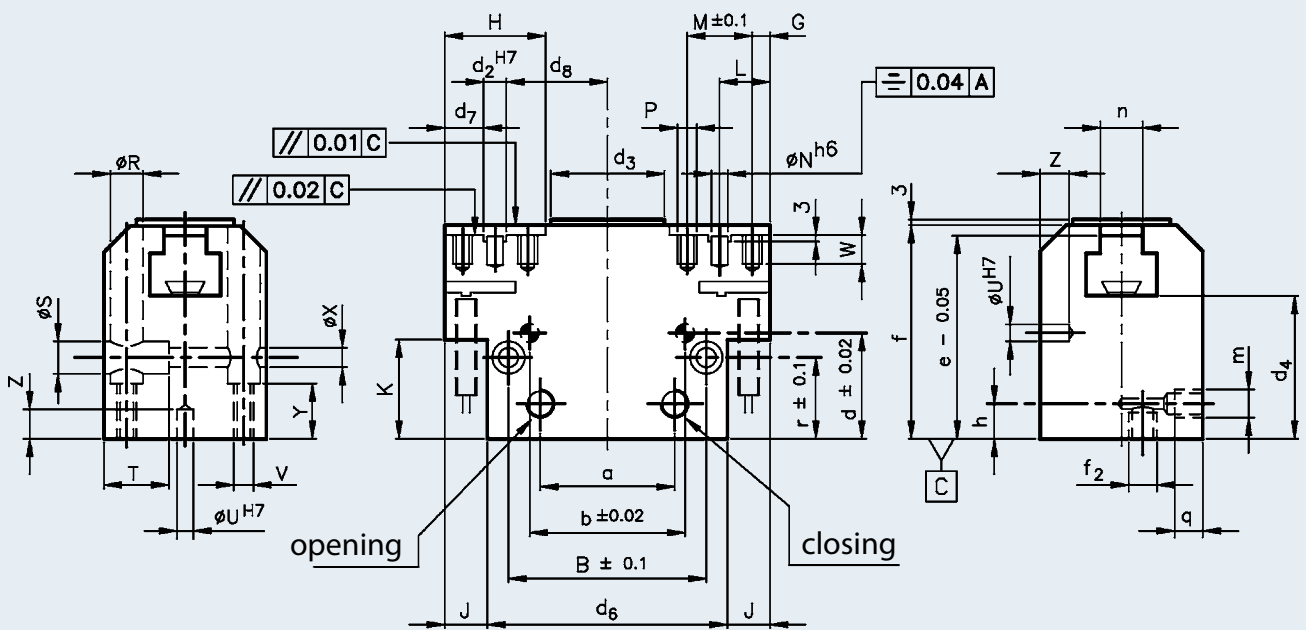
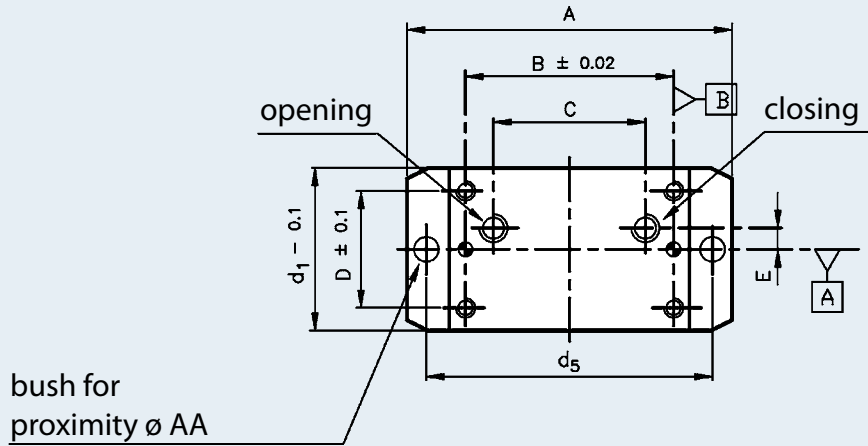
Code	for type	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm
70 55 40 01	SCV 100	14	35	9	18	18	25	50	52
70 55 40 02	SCV 160	28	56	19	30	24	40	79	82
70 55 40 03	SCV 200	30	65	21	32	44	45	98	100
70 55 40 04	SCV 250	36	80	21	35	57	50	125	128

Self centering vise hydraulic "Long stroke" SCV LSH



TECHNICAL DATA

- **Operating pressure range:** max 45 bar with oil
- **Repeatability accuracy:** from cod. 30 10 10 37 to 30 10 10 39 = 0,02 mm with 100 cycles
from cod. 30 10 10 40 to 30 10 10 42 = 0,03 mm with 100 cycles
- **Operating temperature range:** da 5 °C a 60 °C
- **Operating principle:** wedge and piston design with mechanically restricted guidance
- **Stroke range:** from 6 to 72 mm
- **Mounting:** by means of bores for H7 pins
- **Housing material:** hardened steel
- **Material for functional parts:** hardened steel
- **Actuation:** filtered hydraulic oil (10 mm) , viscosity 46 mm²/s a 40 °C
ISO VG max 60 °C; compressed air (10 mm), dry or lubricated
- **Connections:** sides-bases
- **Maintenance:** relubrified via lubrication-nipples every 5.000 cycles for tool clamping, every 100.000 in handling
- **Options:**
 - proxy switch adjustment
 - serrated fingers
 - spring-packaged pressure plate



SCV LSH (Hydraulic)

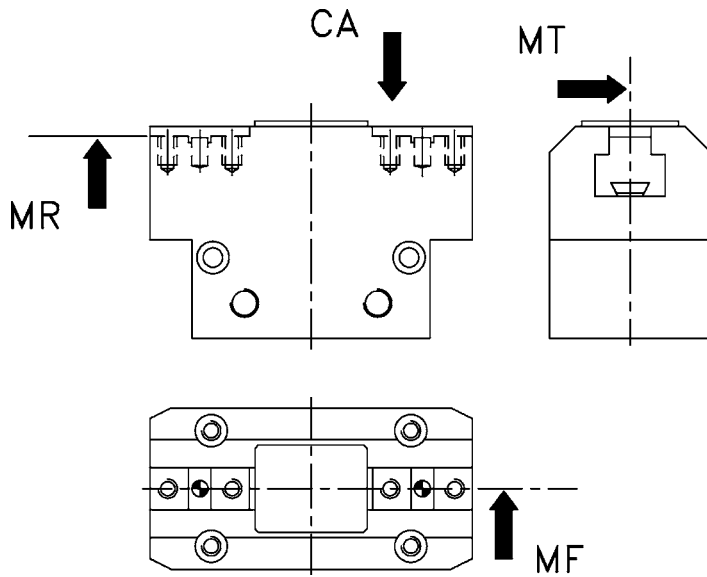
Code	A	B	C	D	E	G	H	L	M	N	P	R	S	T	U	V	Z	Y	X	W	J
30 10 10 37	100	66	44	38	13	6	32	16	20	6	M6	9.5	11	19	5	M6	6	15	6.5	10	10
30 10 10 38	125	82	56	45	14	8.5	40	20.5	24	6	M8	11	14	25	6	M8	8	15	9	12	12.5
30 10 10 39	160	100	70	56	12	9	50	25	32	8	M10	11	14	31	6	M8	10	19	9	15	17.5
30 10 10 40	180	120	76	60	14	9.5	55	27.5	36	10	M10	14	17	45	8	M10	10	20	11	16	20
30 10 10 41	200	130	80	68	18	11	62	31	40	12	M12	17	19	50	10	M12	12	24	13	20	22.5
30 10 10 42	250	164	112	90	28	17	80	41	48	12	M12	19	25	56	12	M16	16	30	17	22	25

Code	K	a	b	d	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₇	d ₈	d ₉	e	f	f ₁	f ₂	h	m	n	Max fing. leng.
30 10 10 37	21	40	48	24	50	8	34	39	89	80	12	30	25	57	60	M3	1/8	15	1/8	15	60
30 10 10 38	24	52	62	27	60	8	43	44	112	100	16.5	38	30	64	68	M3	1/8	15	1/8	18	75
30 10 10 39	29	66	76	32	72	10	56	51	144	125	20	50	38	77	81	M3	1/8	18	1/8	22	80
30 10 10 40	32	72	94	38	80	12	66	62	162	140	21.5	56.5	40	94	98	M4	1/8	20	1/8	26	80
30 10 10 41	34	76	100	42	90	14	74	70	180	155	24	62	46	108	112	M5	1/8	22	1/8	30	90
30 10 10 42	50	104	124	56	120	16	88	88	224	200	33	76	55	128	136	M6	1/4	30	1/4	36	90

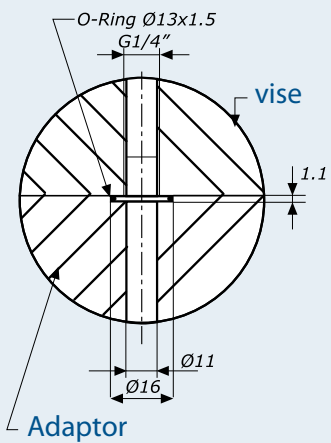
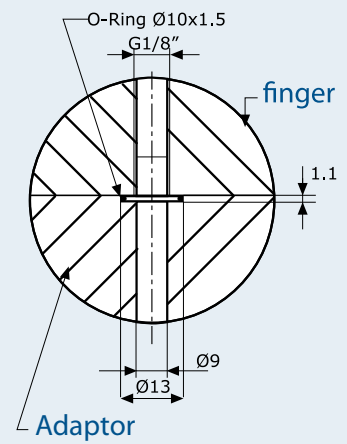
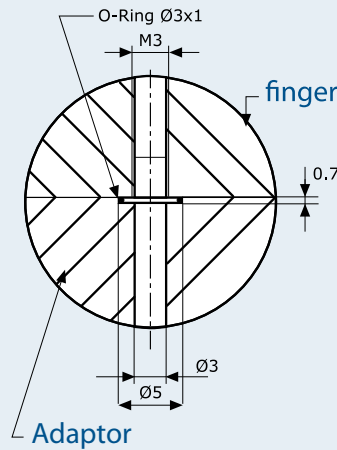
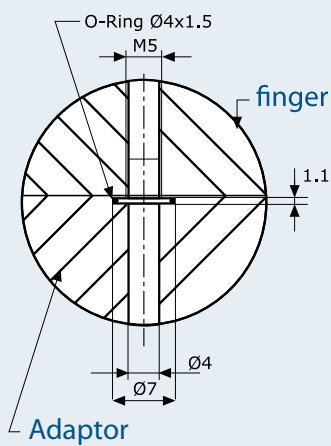
Code	r	q	AA	Stroke for jaw (mm)	Gripping force at 45 bar (N)	work piece mass (kg)	Approx time (sec)		Oil consumption for double stroke (cm ³)	Mass vice kg
							open.	clos.		
30 10 10 37	20	8.5	Ø6.5 M8	10	3010	12.2	0.3	0.35	26	1.8
30 10 10 38	25	8.5	Ø6.5 M8	13	4360	21.3	0.35	0.4	57	2.9
30 10 10 39	27	8.5	Ø6.5 M8	16	8470	33.6	0.4	0.45	101	5.4
30 10 10 40	28	8.5	M8 M12	20	10660	42.6	0.5	0.55	146	8.5
30 10 10 41	32	8.5	M8 M12	25	25410	51.4	0.65	0.75	237	11.5
30 10 10 42	48	12.5	M8 M12	30	25820	82.5	1.1	1.35	411	24.5

- Workpiece weight value at $\mu = 0.1$ e $f_s = 2$. In case of form fit clamping these values may be higher. Gripping force is an arithmetic sum of the individual forces occurring at fingers, distance 15mm at 6MPa.

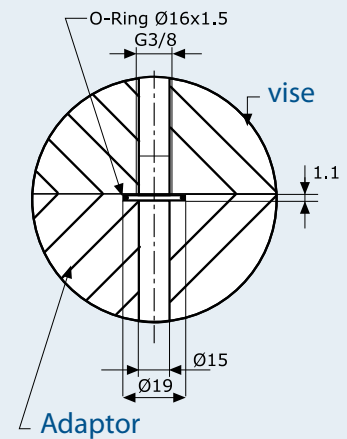
MAX. ADM. FORCES AND MOMENTS OF FINGERS



Code	CA (N)	M (Nm)	MF (Nm)	MT (Nm)
30 10 10 37	2200	100	55	55
30 10 10 38	6000	105	80	70
30 10 10 39	10000	110	90	90
30 10 10 40	12000	125	110	110
30 10 10 41	15000	160	150	150
30 10 10 42	20000	300	220	220



DIRECT CONNECTION WITHOUT HOSER



set of modular clamping equipment with hydraulic clamping unit

TC HYDRO

SET TC HYDRO - DUO

Modular clamping equipment with hydraulic clamping unit with: SUBPLATE, 2 TC VISES, SEQUENCE VALVES, CONNECTING PIPES and MANIFOLD.



Code	Type
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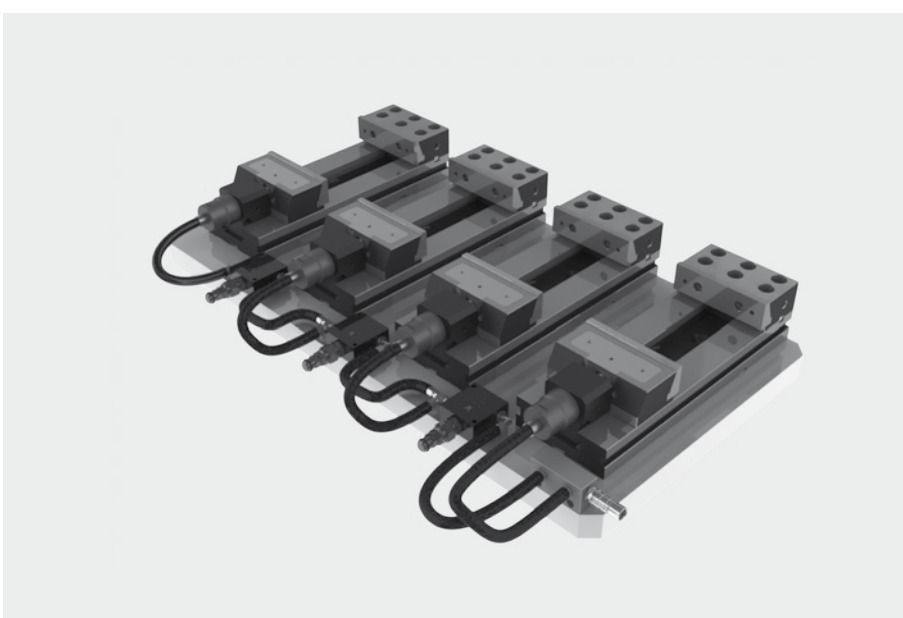
33 58 02 27 TC H DUO 150x200

33 58 02 28 TC H DUO 150x250

33 58 02 29 TC H DUO 150x300

SET TC HYDRO - TETRA

Modular clamping equipment with hydraulic clamping unit with: SUBPLATE, 4 TC VISES, SEQUENCE VALVES, CONNECTING PIPES and MANIFOLD.



Code	type
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33 58 02 47 TC H TETRA 150x200

33 58 02 48 TC H TETRA 150x250

33 58 02 49 TC H TETRA 150x300

SET TC HYDRO - ESA

Modular clamping equipment with hydraulic clamping unit with: SUBPLATE, 6 TC VISES, SEQUENCE VALVES, CONNECTING PIPES and MANIFOLD.

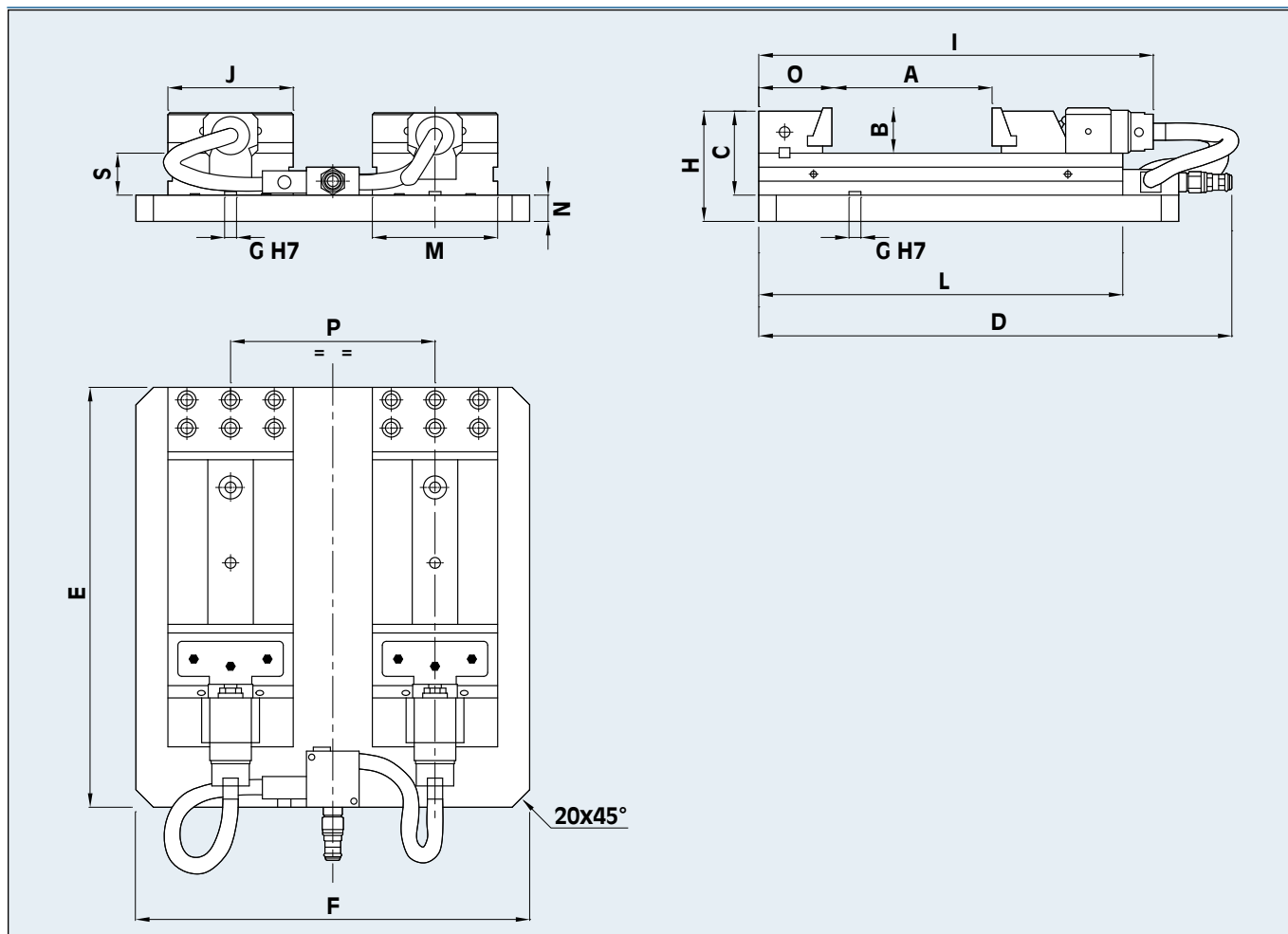


Code	Type
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33 58 02 67 TC H ESA 150x200

33 58 02 68 TC H ESA 150x250

33 58 02 69 TC H ESA 150x300



Code	type	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	L mm	M mm	N mm	O mm	P mm	S mm	weight kg
33 58 02 27	TC H DUO 150x200	200	50	98	550	480	450	18	128	481	150	413	150	30	85	230	48	108
33 58 02 28	TC H DUO 150x250	250	50	98	600	530	450	18	128	531	150	463	150	30	85	230	48	118
33 58 02 29	TC H DUO 150x300	300	50	98	650	580	450	18	128	588	150	520	150	30	85	230	48	128
33 58 02 47	TC H TETRA 150x200	200	50	98	550	480	900	18	138	481	150	413	150	40	85	230	48	249
33 58 02 48	TC H TETRA 150x250	250	50	98	600	530	900	18	138	531	150	463	150	40	85	230	48	271
33 58 02 49	TC H TETRA 150x300	300	50	98	650	580	900	18	138	588	150	520	150	40	85	230	48	295
33 58 02 67	TC H ESA 150x200	200	50	98	550	480	1370	18	138	481	150	413	150	40	85	230	48	378
33 58 02 68	TC H ESA 150x250	250	50	98	600	530	1370	18	138	531	150	463	150	40	85	230	48	411
33 58 02 69	TC H ESA 150x300	300	50	98	650	580	1370	18	138	588	150	520	150	40	85	230	48	448



Air/oil foot pump

Code

71 66 03 05



Air/oil manual pump

Code

71 66 03 15



Pressure - gauge

Code

51 43 12 51

Working example

