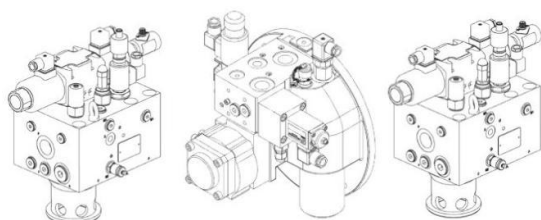


Control for CNC press brakes type SAMB, SPLM

operating pressure p_{max} 320 bar
 volume flow V_{max} 100 l/min



Product characteristics

The hydraulic press drive type SAMB consists of two cylinder blocks including suction valves and either one pump block SAPB or one pump module SPLM consisting of pump, filter, coupling, and motor flange.

The valves for control and lifting as well as the suction valves are located directly at the cylinder bottom. The proportional pressure setting and the control of the suction valves are realized via the centrally arranged pump block or module.

Features and benefits:

- press forces up to 10,000 kN possible
- optimal adaption to machine size through different nominal sizes
- PIH and POH valves offer a particularly fast and precise control through the simultaneous current feed of the solenoids coils.
- The proportional directional control valves on the cylinder blocks improve the synchronous run through precise control. Their arrangement makes the system more rigid and thus leads to a high positioning accuracy.
- options: modules for tool clamping, load sensing, or proportional hydraulic crowning
- system complies with valid accident prevention regulations
- certified with type examination certificate No. 13028
- low noise level due to asymmetrical cast iron pump housing
- double pumps available

Intended applications:

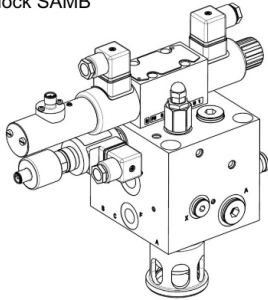
- press brakes

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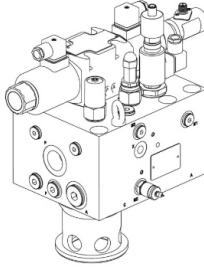
Structure.....	2
Technical data.....	4
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Structure

cylinder block SAMB



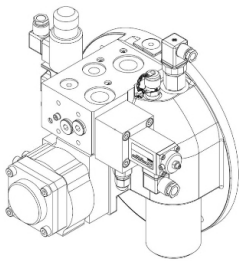
NG06



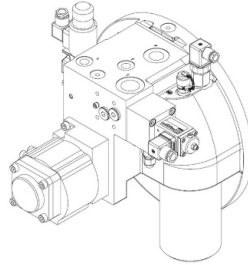
NG10

Valves for control and holding as well as the suction valves are directly attached to the bottom of the cylinder.

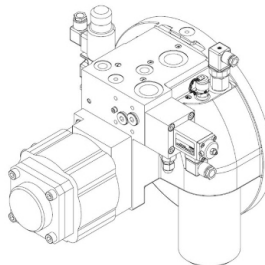
pump module SPLM



SPLM 302



SPLM 352



SPLM 353

Proportional pressure adjustment and control of suction valves are realized by the central pump module.

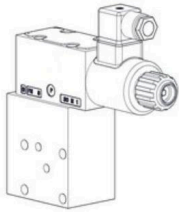
Designs

SAMB (per cylinder)		SPLM	
type	Q_{max}	type	Q_{max}^*
SAMB 53418_06_ (NG06)	30.0 L/min	SPLM 302A52919-08_	11.6 L/min
		SPLM 302A52919-11_	16.0 L/min
		SPLM 302A52919-13_	18.9 L/min
		SPLM 302A52919-16_	23.2 L/min
		SPLM 352B52926-16_	23.2 L/min
		SPLM 352B52926-19_	27.6 L/min
		SPLM 352B52926-22_	31.9 L/min
		SPLM 352B52926-25_	36.3 L/min
		SPLM 353C52925-25_	36.3 L/min
		SPLM 353C52925-32_	46.4 L/min
SAMB 51721_10_ (NG10)	100.0 L/min	SPLM 353C52925-25_	36.3 L/min
		SPLM 353D52925-32_	46.4 L/min
		SPLM 353D52925-40_	58.0 L/min
		SPLM 353D52925-50_	72.5 L/min

* Q_{max} at [1.450 min⁻¹]

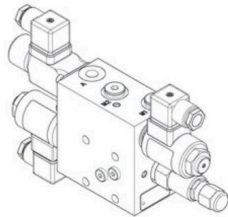
Options

proportional hydraulic crowning



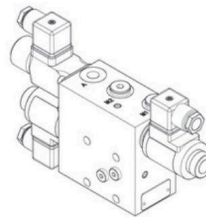
→ adapts the lower beam to the deformation of the upper beam

module for tool clamping with pressure control



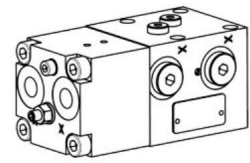
→ Clamp system for tool holder at the upper beam, which enables change and movement of tools. Pressure can be adjusted as required.

module for tool clamping without pressure control



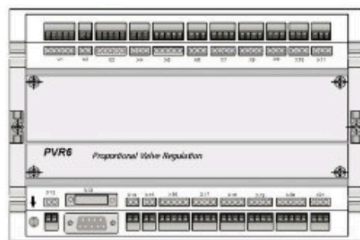
→ Clamp system for tool holder at the upper beam, which enables change and movement of tools.

Load sensing NG06 und NG10



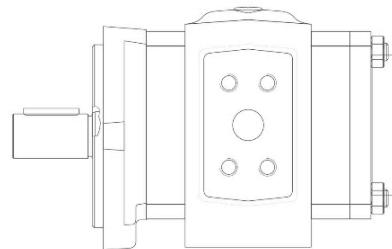
→ Pressure will be adjusted to the requirements requested by the consumer. The heating of the hydraulic fluid will be reduced and energy efficiency will be increased.

digital amplifier PVR6



→ control of up to four proportional valves for position / pressure control via EtherCAT interface or analog ± 10 V

internal gear pump HQI



→ robust industrial pump for high pressures with constant displacement volume

Technical data

General

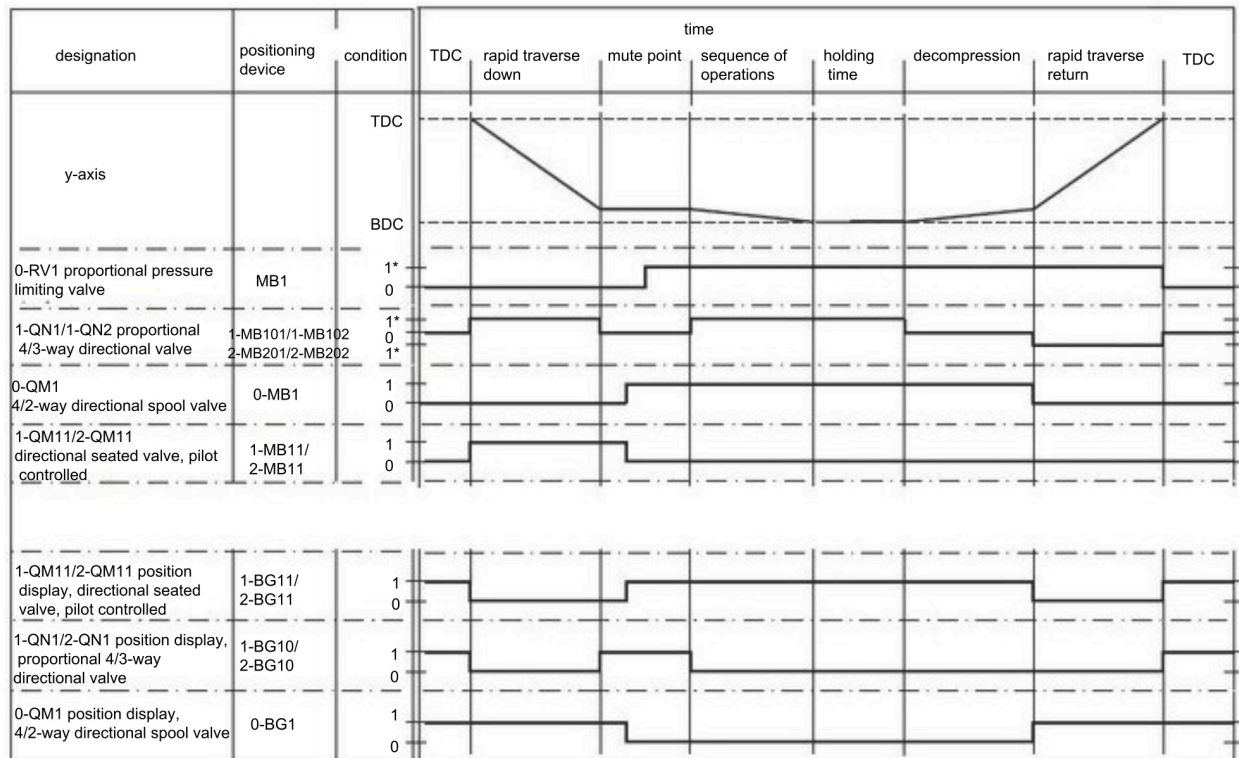
weight	SAMB53418_06_ (NG06):	14.7 kg
	SAMB51721_10_ (NG10):	41.0 kg
	SPLM 302:	~42 kg
	SPLM 352/353:	~65 kg / ~76 kg
	prop. crowning (NG06):	3.6 kg
	prop. crowning (NG10):	6.0 kg
	tool clamping with pressure control:	4.9 kg
	tool clamping without pressure control:	4.0 kg
	load sensing (NG06):	3.2 kg
	load sensing (NG10):	7.3 kg
ambient temperature	-10 to +50 °C	
mounting position	arbitrary; Attention: proportional directional valves always in horizontal position	
corrosion protection	SAMB:	surface chemically nickel plated
	SPLM:	surface protected by corrosion protection fluid

Hydraulic parameters

Hydraulic fluid: mineral oil according to DIN 51524, other media on request

max. operating pressure (initial pressure)	320 bar
hydraulic fluid temperature	-10 to +70 °C
viscosity	10-600 mm ² /s; recommended range for continuous operation: 20-100 mm ² /s
permissible degree of pollution	max. class 19/16/13 according ISO 4406

Functional diagram

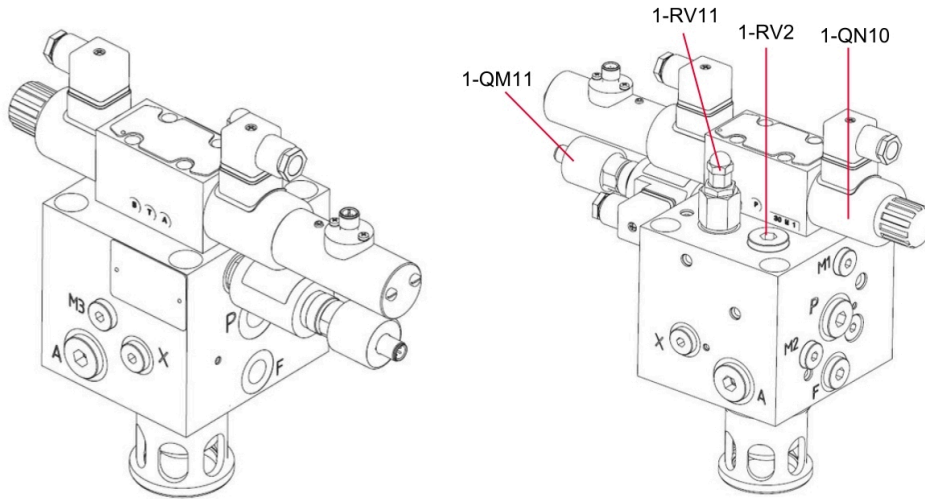


*value 1 at MB1, 1-MB101/1-MB102, and 2-MB201/2-MB202 is dependent on machine and control state

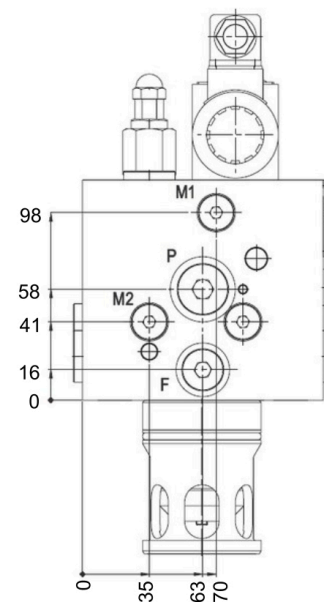
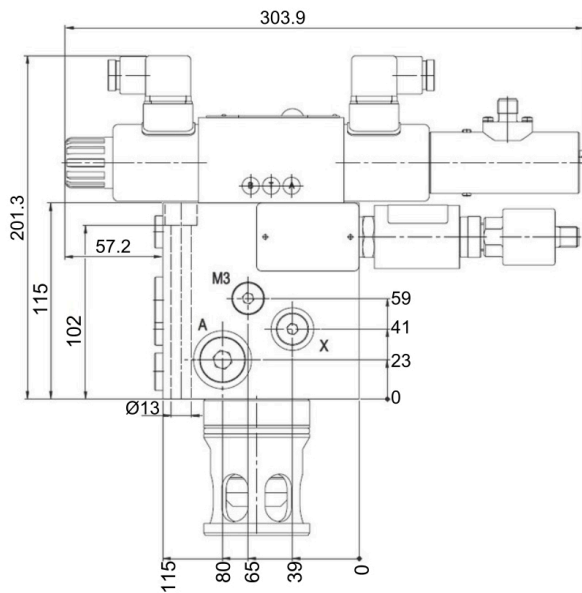
Dimensions and connections

Dimensions are given in mm.

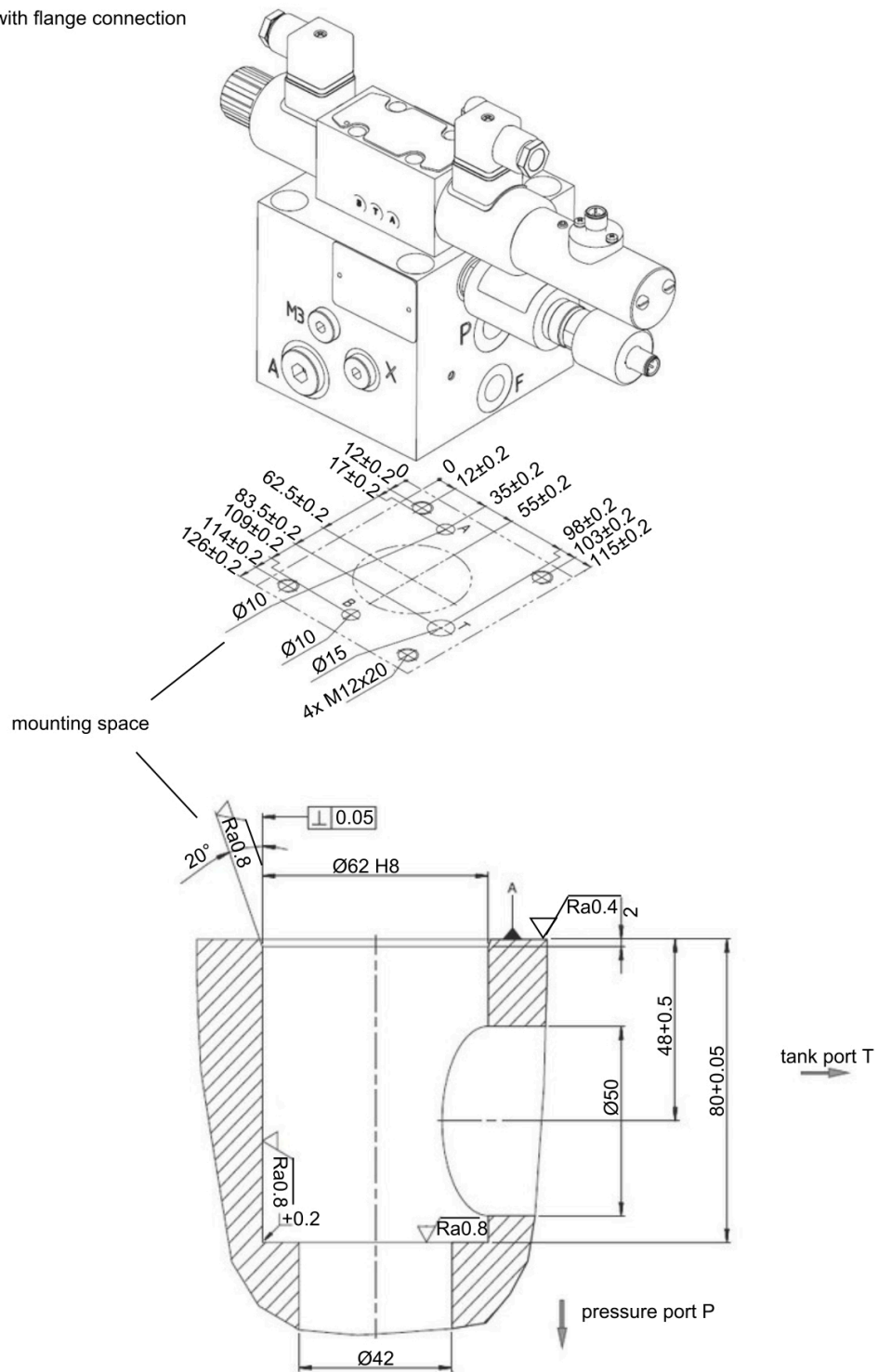
Cylinder block SAMB NG06



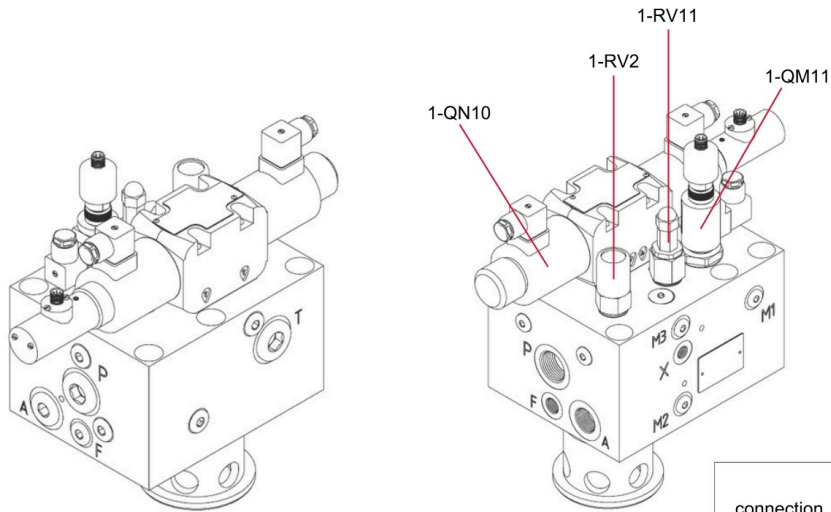
connection	size	tightening torque
A, P	G1/2	90 Nm
F	G3/8	55 Nm
X, M1, M2, M3	G1/4	33 Nm



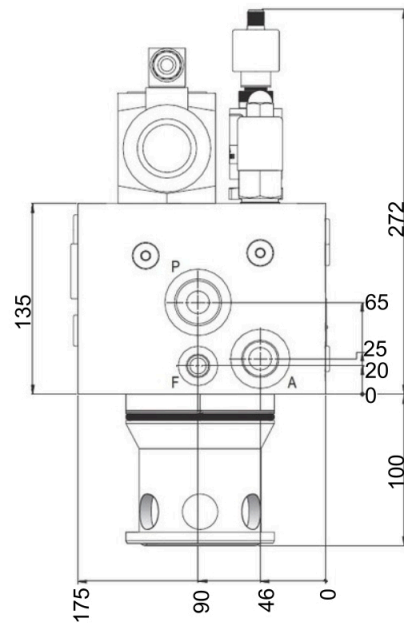
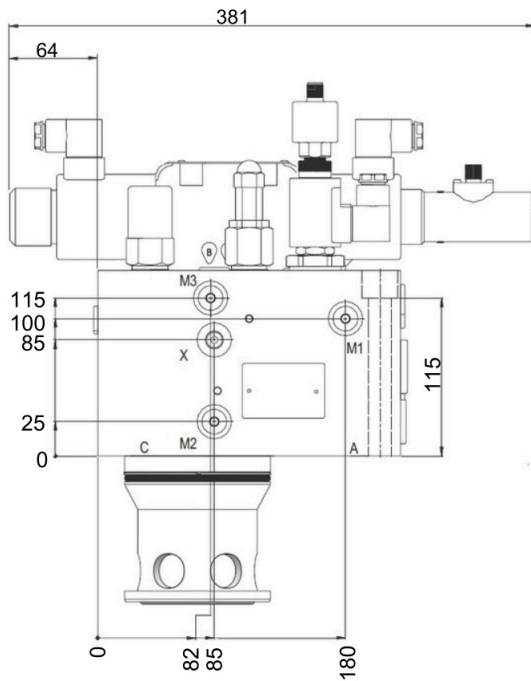
Display with flange connection



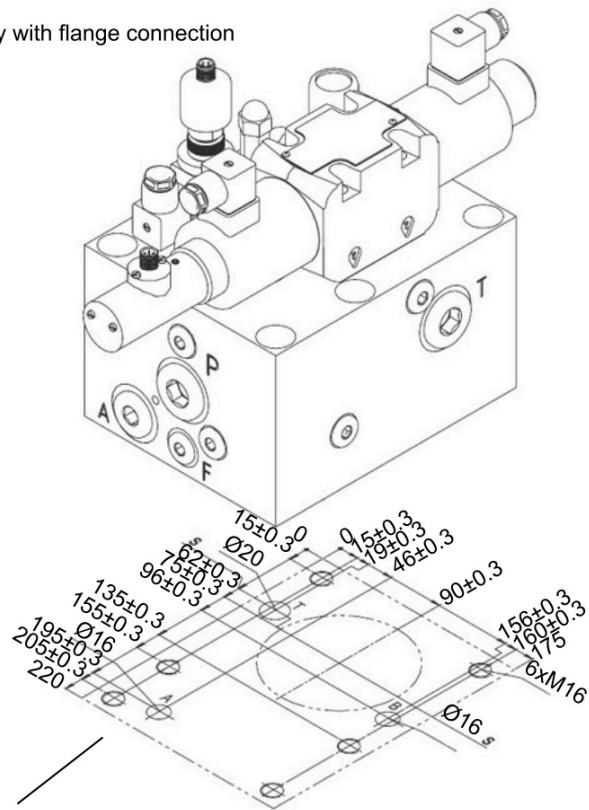
Cylinder block SAMB NG10



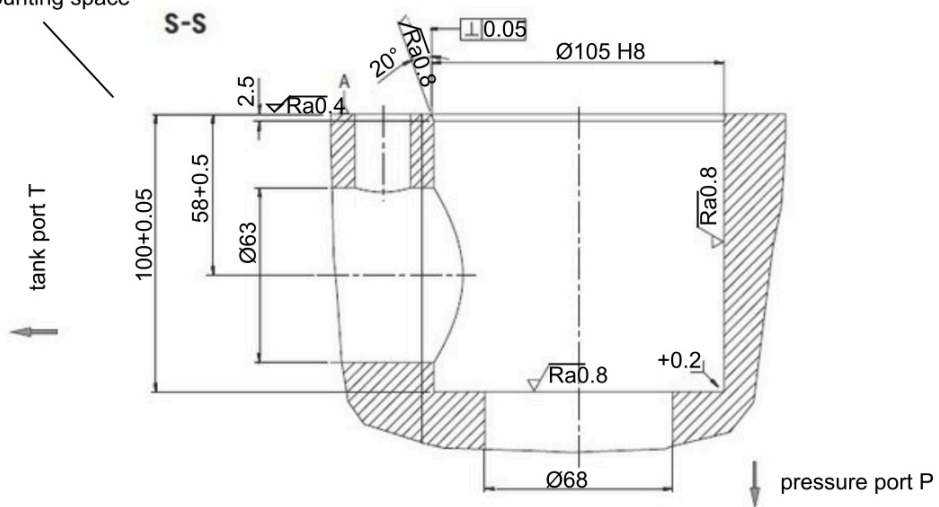
connection	size	tightening torque
P, T	G1	200 Nm
A	G3/4	155 Nm
F	G3/8	55 Nm
X, M1, M2, M3	G1/4	33 Nm



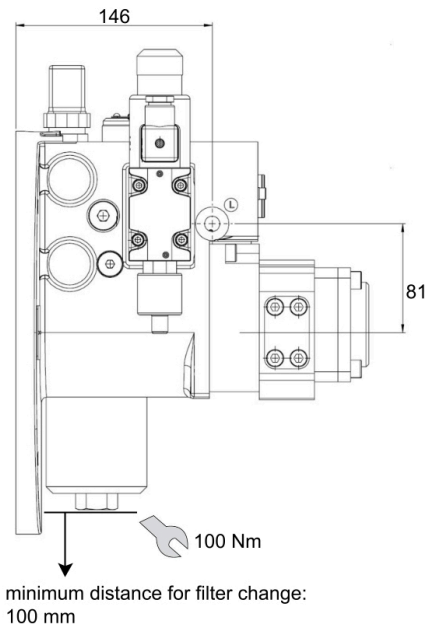
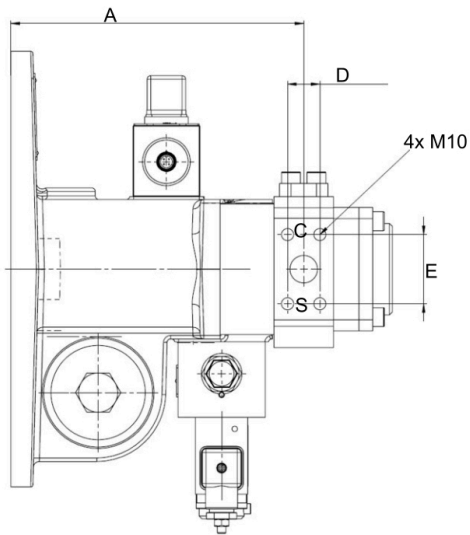
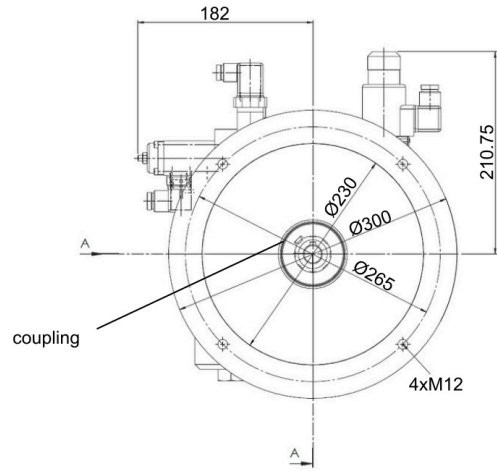
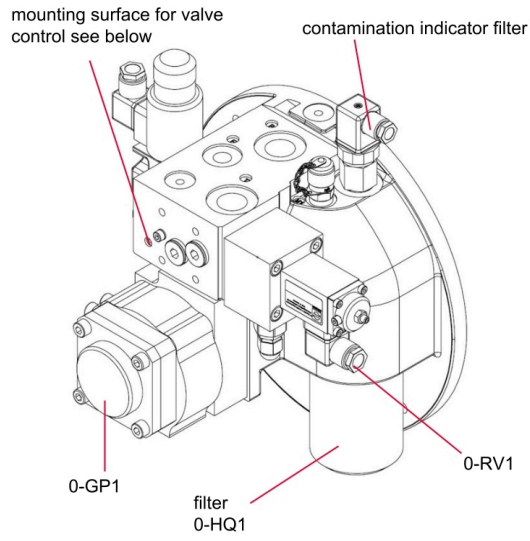
display with flange connection

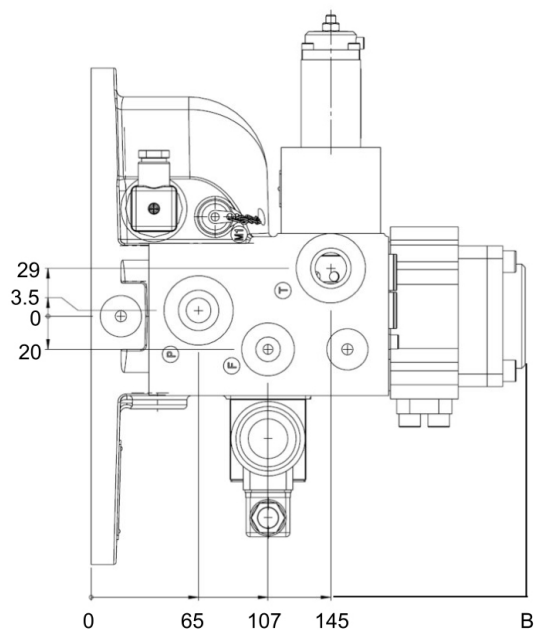


mounting space



SPLM 302





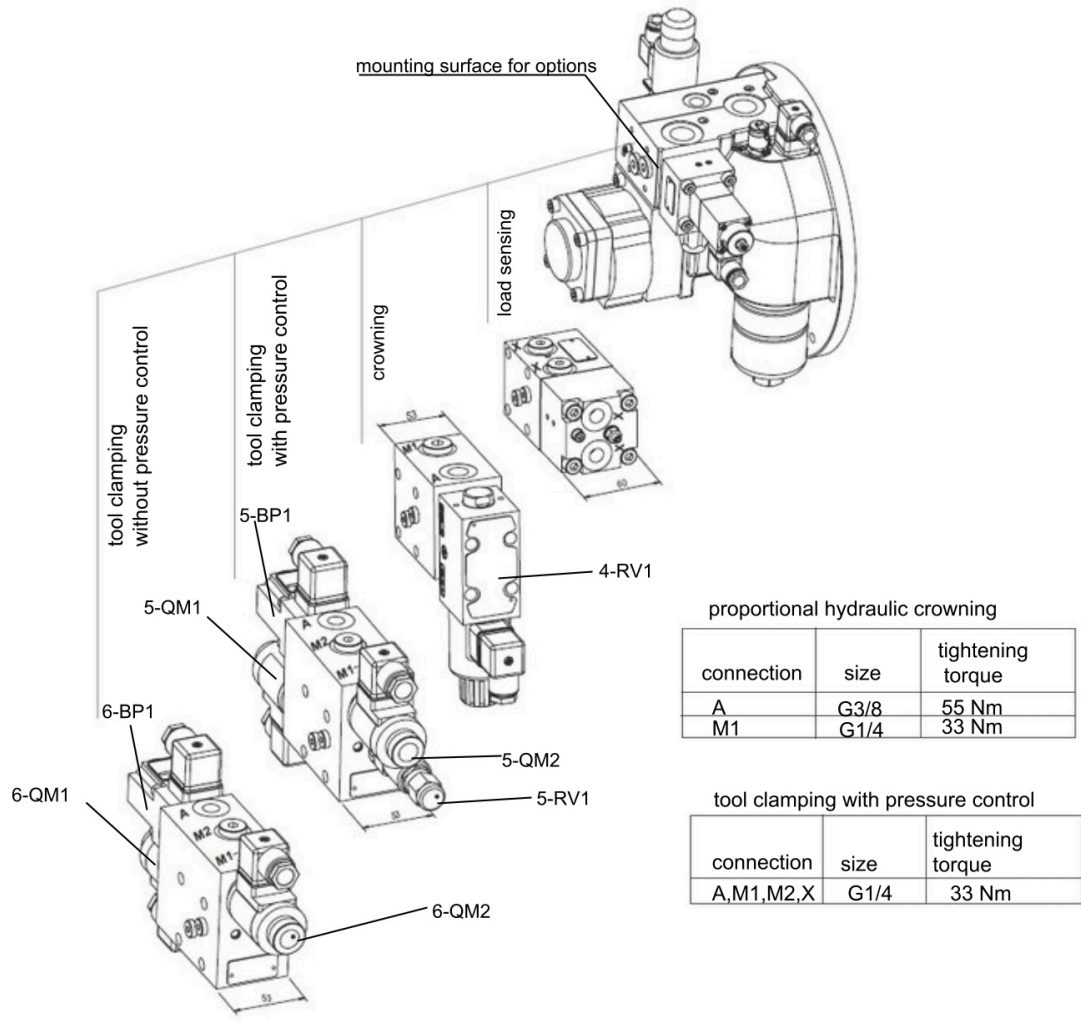
NG	A	B	C	D	E
8	201.5	262.5	19	22	47.5
11	204.5	268.5	25	26.2	52.4
13	207	273.5	25	26.2	52.4
16	209.5	278.5	25	26.2	52.4

connection	size	tightening torque
P, T	G3/4	155 Nm
F	G3/8	55 Nm
L, M1	G1/4	33 Nm

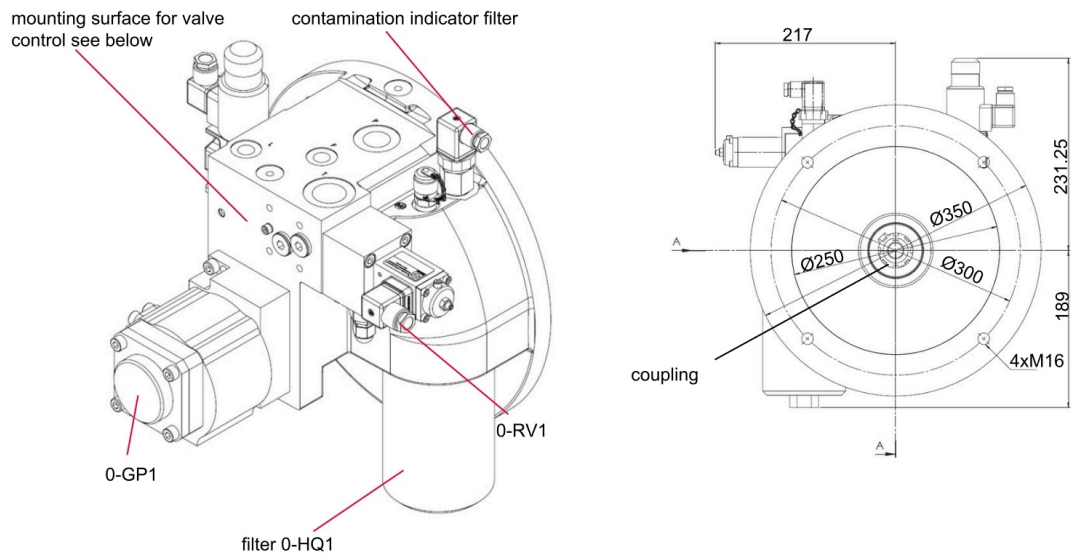
size	tightening torque
M5	5.5 Nm
M6	9.5 Nm
M8	24 Nm
M10	46 Nm

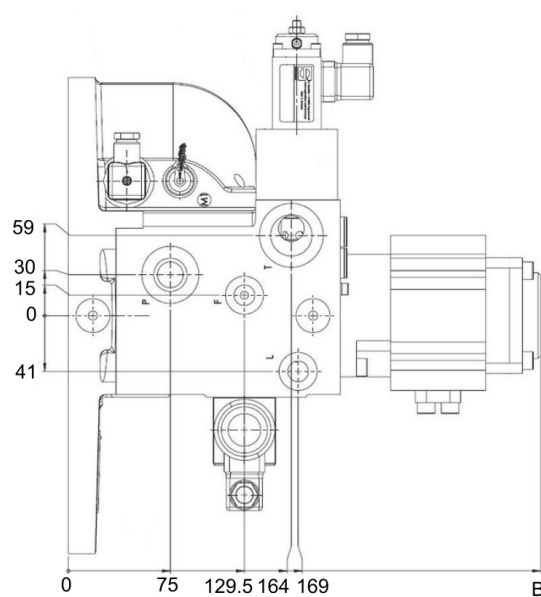
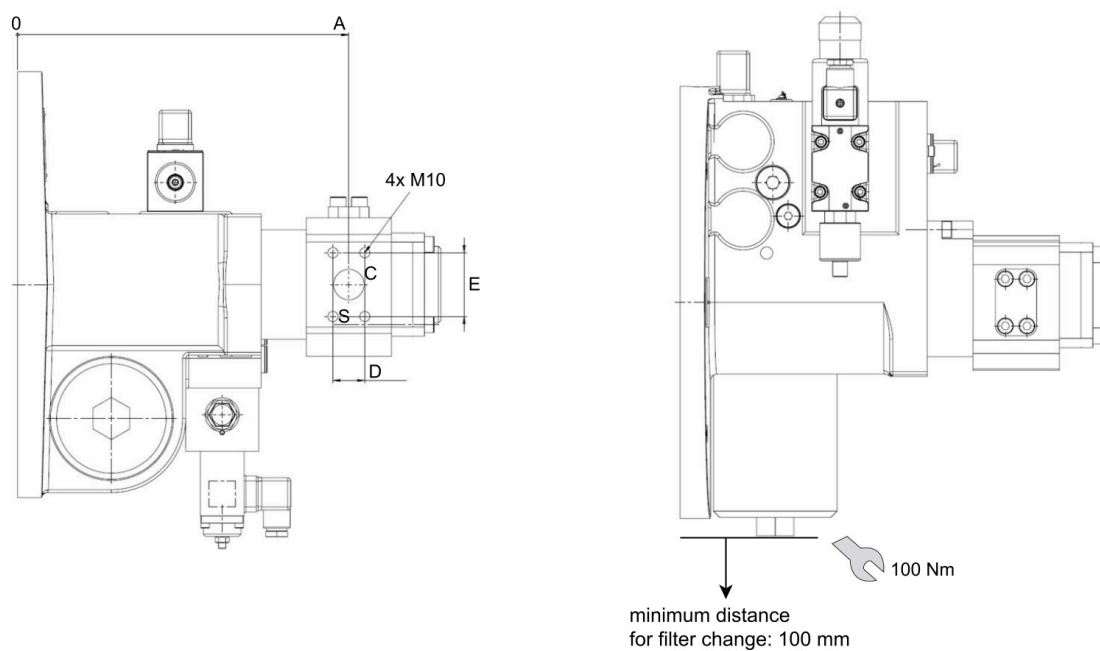
type	coupling	Ø motor shaft
A	NG 28	38 mm
B	NG 28	42 mm
C	NG 38	42 mm
D	NG 42	48 mm
E	NG 42	55 mm

Display with options - SPLM 302



SPLM 352





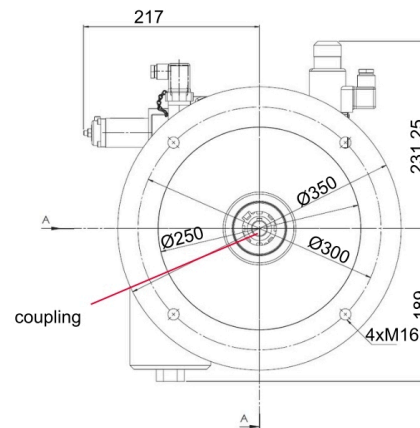
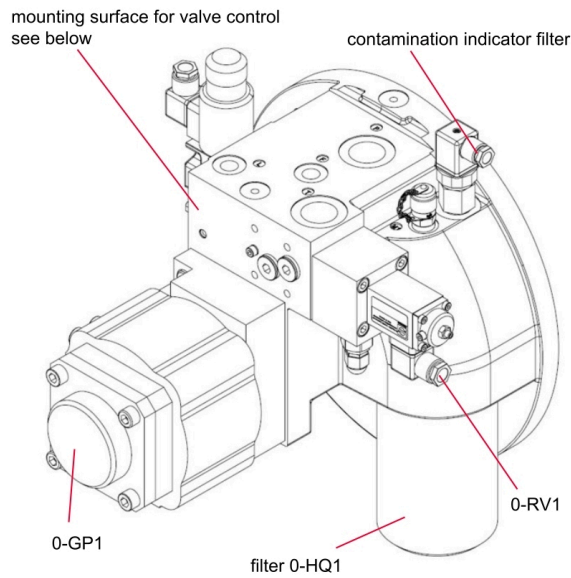
NG	A	B	C	D	E	G
16	265.5	334.5	25	26.2	52.4	30
19	269	341.5	25	26.2	52.4	30
22	272	347.5	25	26.2	52.4	30
25	275	353.5	25	26.2	52.4	30

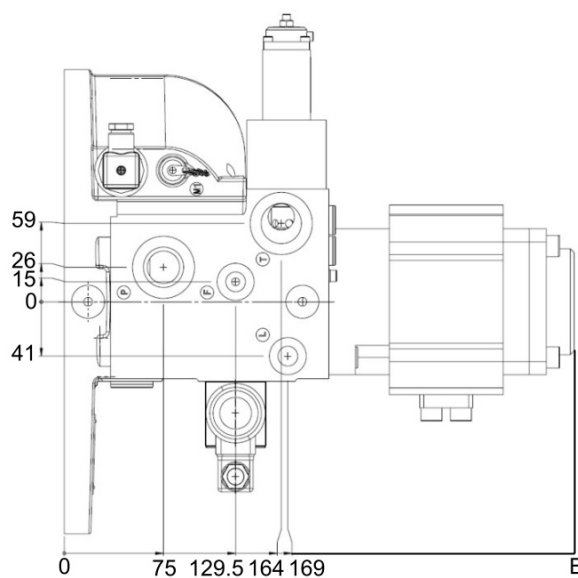
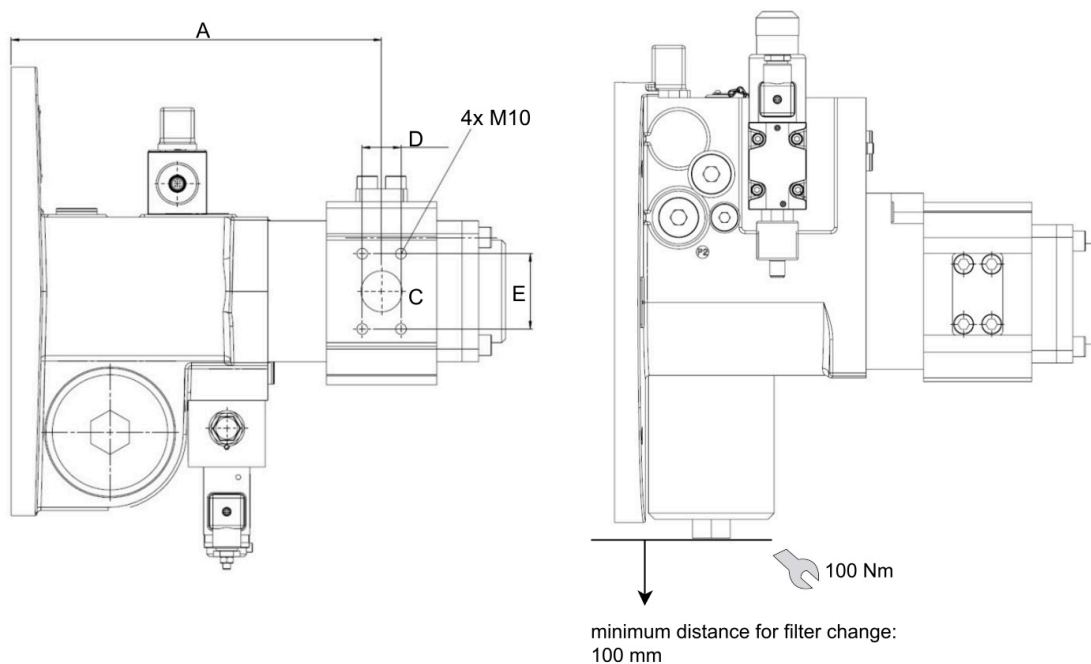
connection	size	torque
P	G3/4	155 Nm
T	G1	400 Nm
F, L	G3/8	55 Nm
M1	G1/4	33 Nm

size	torque
M5	5.5 Nm
M6	9.5 Nm
M8	24 Nm
M10	46 Nm

type	coupling	Ø motor shaft
A	NG 28	38 mm
B	NG 28	42 mm
C	NG 38	42 mm
D	NG 42	48 mm
E	NG 42	55 mm

SPLM 353





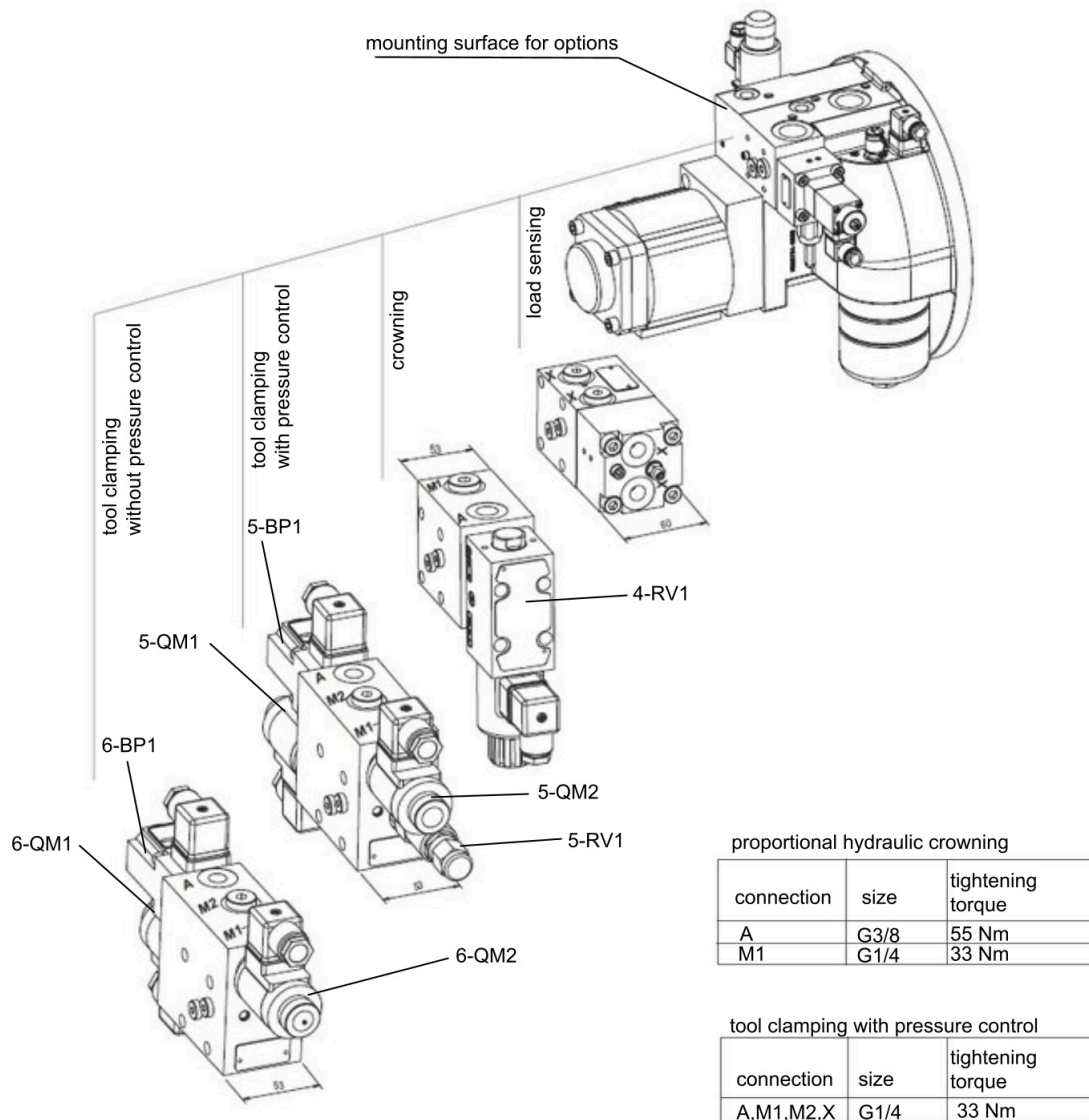
NG	A	B	C	D	E	G
25	278.2	364.4	32	30.2	58.7	26
32	283.2	374.4	32	30.2	58.7	26
40	288.7	385.4	32	30.2	58.7	26
50	295.7	399.4	32	30.2	58.7	26

connection	size	tightening torque
P	G1	400 Nm
T	G1	400 Nm
F, L	G3/8	55 Nm
M1	G1/4	33 Nm

size	tightening torque
M5	5.5 Nm
M6	9.5 Nm
M8	24 Nm
M10	46 Nm

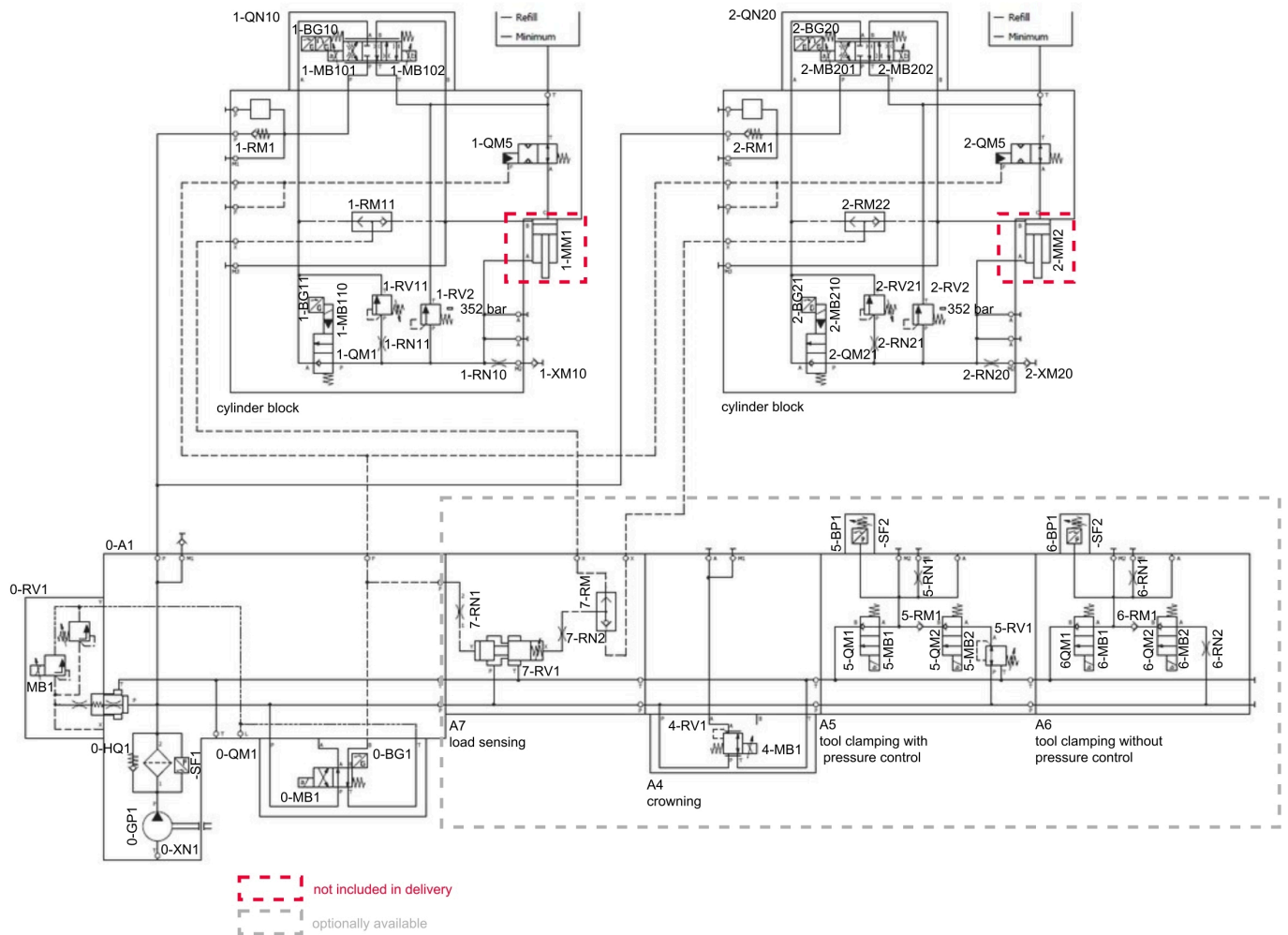
type	coupling	∅ motor shaft
A	NG 28	38 mm
B	NG 28	42 mm
C	NG 38	42 mm
D	NG 42	48 mm
E	NG 42	55 mm

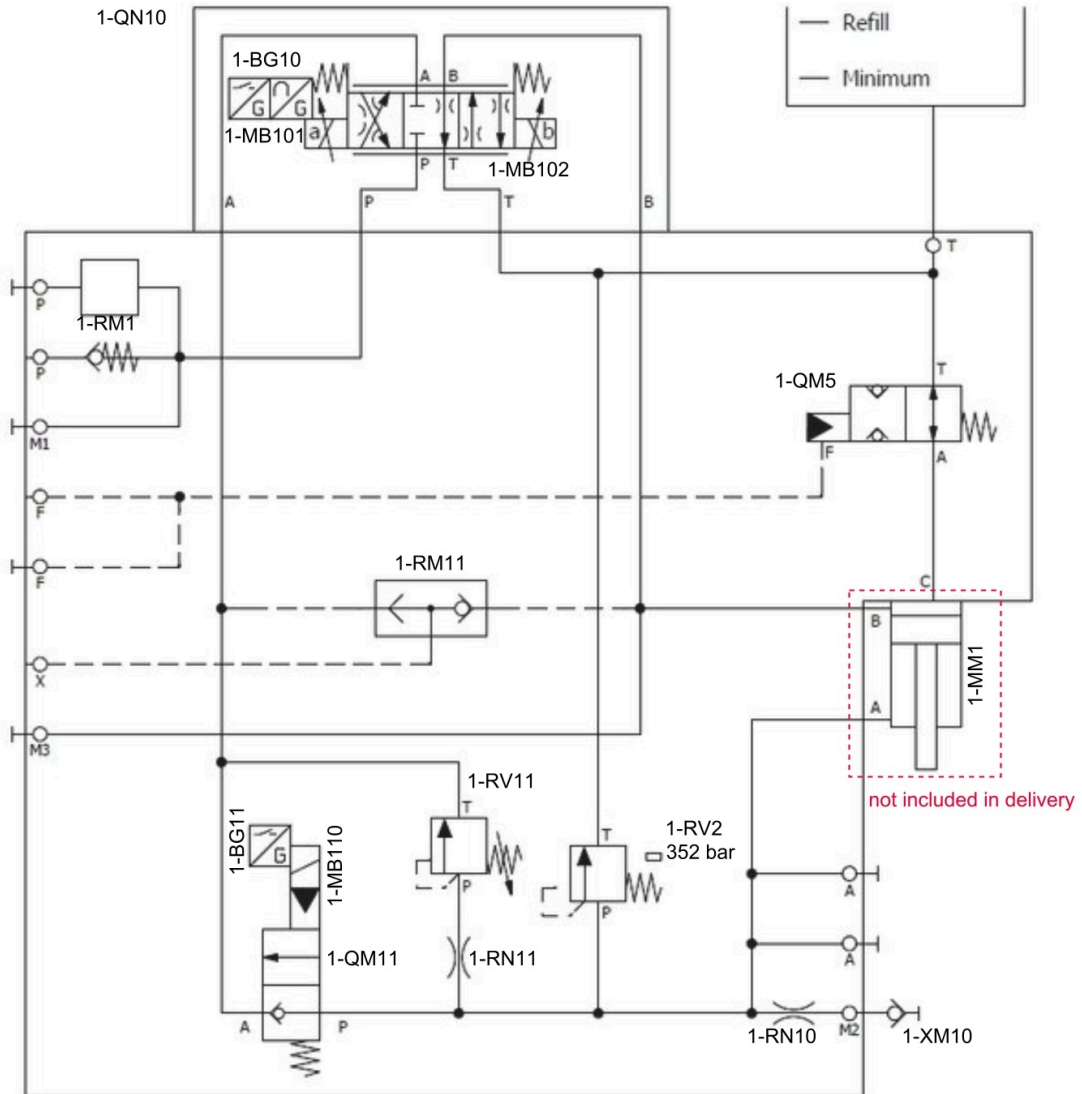
Display with options - SPLM 352 & SPLM 353



Circuit diagram

SAMB with SPLM (NG06)





Order information

Type code

SAMB

S	AMB	53418	I	06	B	024	X - - -	S...
								special design
								design of suction valves NSV
								volume flow
								piston type of proportional directional valve
								size of proportional directional valves
								type of proportional directional valves
								number of basic block
								design
								position monitoring of valves

position monitoring of valves

S*	position monitoring of:
	<ul style="list-style-type: none"> ▪ 2/2-way seated valve ▪ proportional directional valve (type I,H)
-	no position monitoring

*preferred option

design

AMB	cylinder block
-----	----------------

number of basic block

53418	NG06 (1DS)
55100	NG06, without shuttle valve for load sensing (6CP)
54982	NG06, with shuttle valve for load sensing (6CP)
51721	NG10

type of proportional directional valves

I	PIL proportional directional valve with transducer and middle position signal
R	PRL proportional directional valve with transducer
S	POL proportional directional valve without transducer
Q	POH proportional directional valve without transducer
H*	PIH proportional directional valve with transducer and middle position signal

* preferred option

only use I or H for SAMB

middle position signal...required for safety

transducer...faster positioning, dynamics

size of proportional directional valves

06*	PC06
08	PC08
10*	PC10

*preferred option

piston type of proportional directional valve

A	symbol 500 (PIL, PRL, POL)
B*	standard symbol 400 (PIL, PRL, POL); 430 (POH, PIH)

*preferred option

volume flow

___ L/min (nominal flow of the installed proportional directional control valves)

design of suction valves NSV

S	special design
V	NSV, type NO NG32
W	without NSV
X*	standard NSV, type NO (NG50 for NG06, NG75 for NG10)
Z	NSV, type NO NG40

* preferred option

Type code

S	PLM	30	2	A	52919-	16	X - - -	S...
								special design
							options	
						displacement volume of pump		
				number of basic block				
			coupling					
			pump series					
		motor flange						
	design							
	monitoring of valves							

monitoring of valves

S	monitoring of 4/2-way directional spool valve
M	monitoring of two 4/2-way directional spool valves (for normally closed prefill valves)
-	no monitoring

design

PLM	pump block with integrated internal gear pump, pressure filter and ROTEX® coupling
-----	--

motor flange

30	diameter 300 mm
35	diameter 350 mm

pump design

2	special SPLM pump, size 2
3	special SPLM pump, size 3

coupling

A	NG28 motor shaft Ø 38 mm
B	NG28 motor shaft Ø 42 mm
C	NG38 motor shaft Ø 42 mm
D	NG42 motor shaft Ø 48 mm
E	NG42 motor shaft Ø 55 mm
X	without

options

- | | |
|---|--|
| X | without option |
| D | load sensing |
| B | crowning (NG06) |
| C | crowning (NG10) |
| K | tool clamping module without pressure valve |
| R | tool clamping module with pressure valve (< 80 bar) |
| L | tool clamping module with pressure valve (< 170 bar) |

Type code

Digital amplifier

PVR	600	5	H	B	30	6	R	K
								filter K no filter
							function R ramp	
						control 6 number of solenoids		
					output current 30 3,000 mA I _{max}			
				final stage B quick de-energizing				
			installation H mounting rail according DIN 50022					
		control 5 multi-valve						
	design 600 standard							
	601 EtherCAT							
type	electronic digital amplifier							

accessories: socket board KC3832

HAWE Hydraulik SE

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