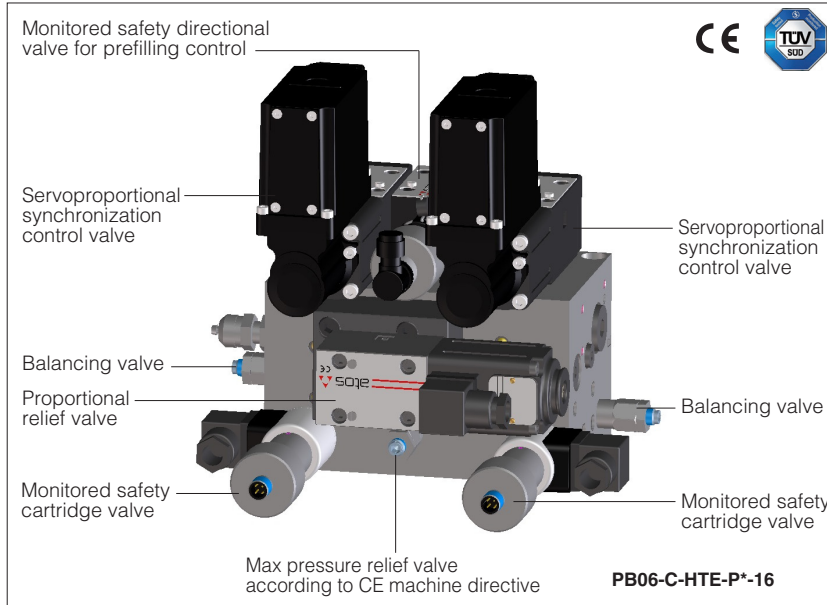


Standard solutions for CNC press brakes

CE and non CE design



Standard electrohydraulic solutions for CNC synchronized press brakes are available in three sizes with different executions:

PB06, solution with central block design for small / medium machines, including:

- central manifold with proportional pressure control, size 06 synchronization servoproportional valves, safety valves.

PB10, solution with modular blocks design for medium / big machines, including:

- size 16 or 25 pressure control block
- n°2 size 10 synchronization control blocks, at choice to be installed on the prefilling blocks or assembled in any other point of the press brake.

PB11, solution like PB10, but with size 10P pilot operated proportional directional valves for synchronization control with high flow performances

PB*-**C** designs are CE certified by TÜV according to the EN 12622.

PB*-**N** are non CE version, without monitored safety valves.

See sections (1) and (5) for blocks composition and available proportional controls.

1 MODEL CODE OF BLOCKS SOLUTION

PB	06	-	N	-	HTEB	-	NP	-	P3	-	16	-	CR
Press brake solution													Optional crowning function, see sect. 10, 11
Size and design 06 = size 06, central block 10 = size 10, modular block 11 = size 10P, modular block													Pressure control block size 16 = size 16 for PB06 and PB10 25 = size 25 for PB10 and PB11
Design certified C = CE certified N = non CE													Regulation characteristic (at Δp 15 bar per edge) size 06-H: size 06-L: P2 = 28 l/min L31 = 9 l/min P3 = 40 l/min L51 = 18 l/min P5 = 50 l/min L71 = 27 l/min size 10-H: size 10-L: size 11-H: P2 = 60 l/min L31 = 40 l/min P5 = 160 l/min P3 = 80 l/min L71 = 60 l/min P5 = 105 l/min
Double solenoid, 3 position, w/o driver and transducer (driver functions included in machine CNC or by separated driver) HE = ZE solenoid HA = ZO solenoid Double solenoid, 3 position, with transducer HT = without driver (1) HTE = analog driver HTEB = basic digital driver HTES = full digital driver with optional fieldbus interfaces Single solenoid, 4 position, sleeve execution with fail safe LT = without driver (1) LTE = analog driver LTEB = basic digital driver LTES = full digital driver with optional fieldbus interfaces													Optional fieldbus interfaces only for HTEB, LTEB, HTES and LTES: (HTEB and LTEB basic executions available only in NP) NP = none BC = CANopen BP = PROFIBUS BP EH = EtherCAT

(1): including separated card driver E-ME-T-2*H (Eurocard format)

2 MODEL CODE OF PREFILLING BLOCKS

PFB	-	25
Prefilling block		
Prefilling size (2) 25, 32, 40 normally coupled with solution type PB06 50, 63 normally coupled with solution type PB10 (11)		

(2): Other prefiling sizes or based on customized mounting surfaces available on request

3 BASIC FOR THE SIZING OF THE BLOCKS SOLUTIONS

Pressing Force (kN)	Pump flow (l/min)	Working pressure (bar)	Block solution model code	Proportional valve nominal flow at Δp 15 bar per edge (l/min)	Typical Prefilling valve size	Nominal prefilling valve flow in suction condition (l/min)
400 - 1250	Up to 50	Up to 315	PB06-*-16 all models	28, 40, 50 for control type HE, HA, HT, HTE, HTEB, HTES 9, 18, 27 for control type LT, LTE, LTEB, LTES	25	150
1250 - 2000					32	225
2000 - 3000					40	350
3000 - 6000	Up to 150		PB10-*-16 all models	60, 80, 105 for control type HA, HT, HTE, HTEB, HTES 40, 60 for control type LT, LTE, LTEB, LTES	50	500
6000 - 10000					63	800
10000 - 15000	Up to 220		PB10-*-25 PB11-*-25 all models			To be defined, depending to the machine characteristics

Note: The above data are indicative. The sizing of the block solutions must be checked by Atos according to the specific machine characteristics

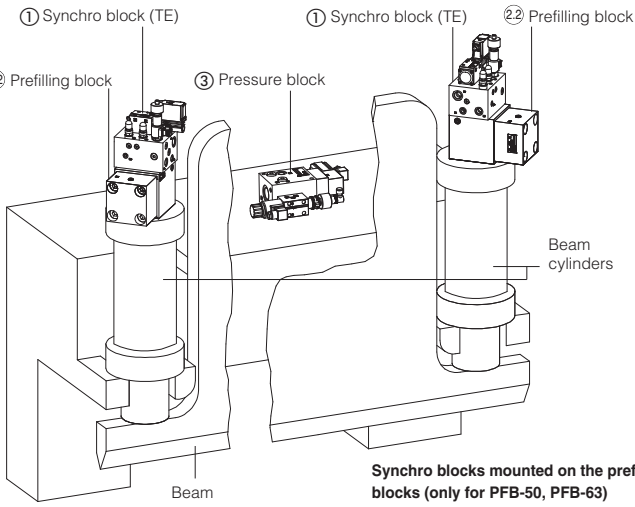
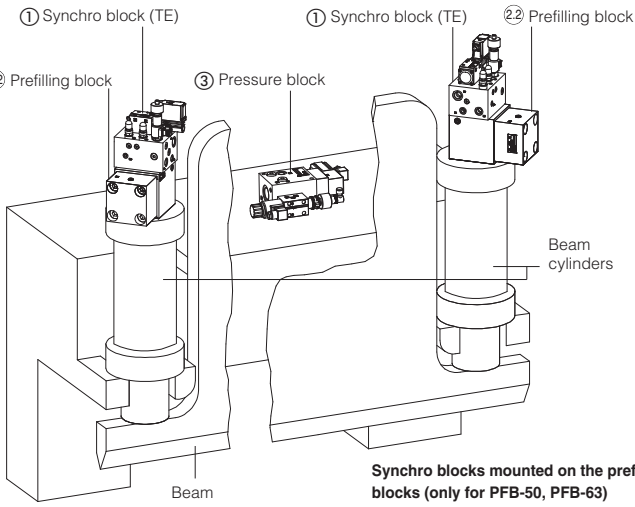
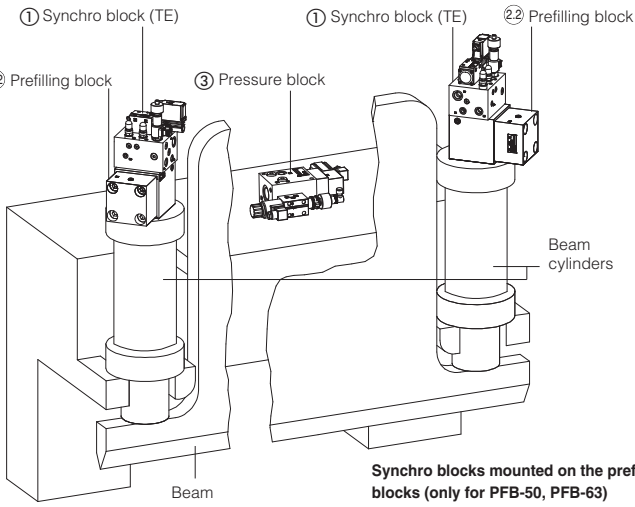
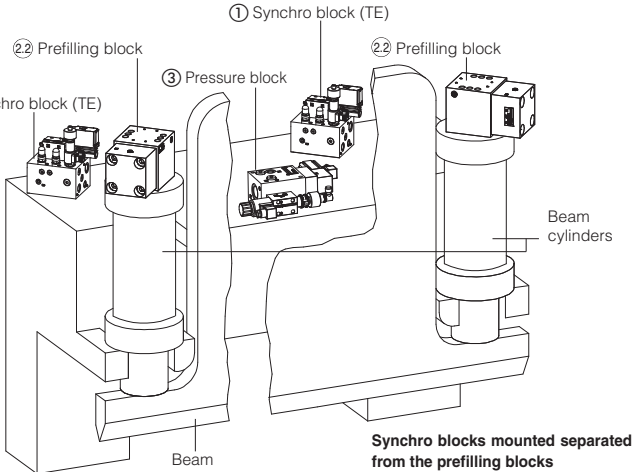
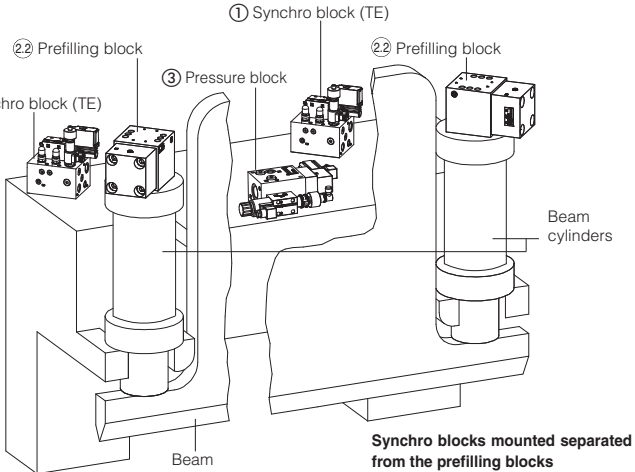
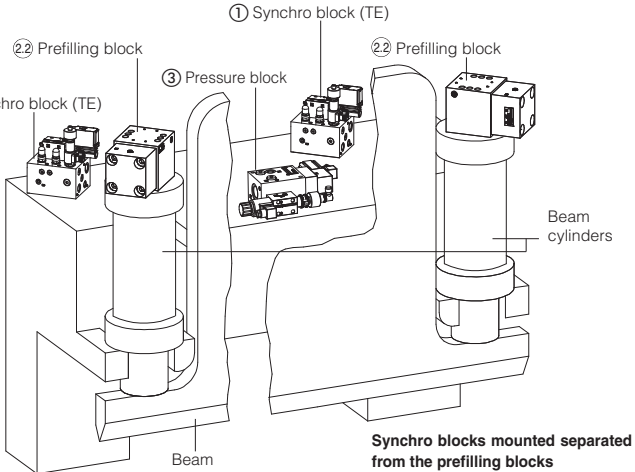
4 MAIN CHARACTERISTICS

Ambient temperature	-20°C to +70°C for -A execution; -20°C to +60°C for -T, -TE, -TEB and -TES executions.
Fluid	Hydraulic oil as per DIN 51524 535
Recommended viscosity	15 ÷ 100 mm ² /s at 40°C (ISO VG 15 ÷ 100)
Fluid contamination class	ISO 18/15, achieved with in line filters at 10 µm value to $\beta_{10} \geq 75$ (recommended)
Fluid temperature	-20°C +60°C

5 BLOCKS ASSEMBLING

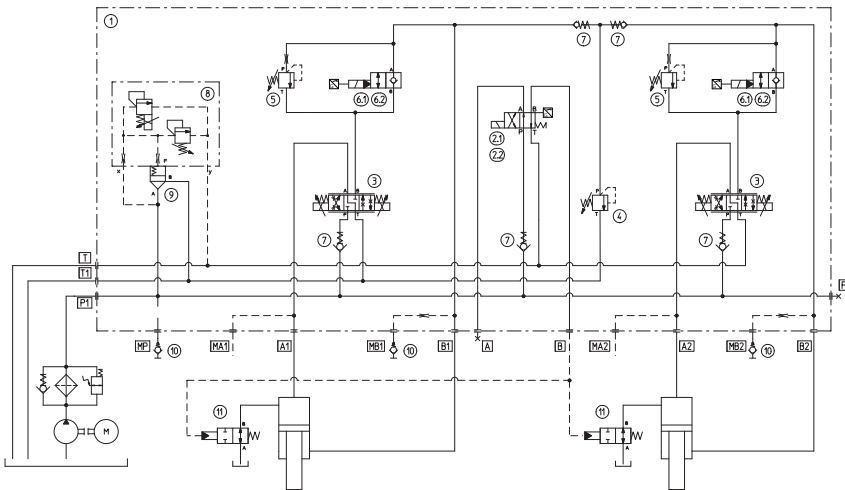
Control block solution	Composition	
PB06-*-HE P*-16 PB06-*-HA P*-16	N° 1 central synchro block ① with size 06 proportional valves without transducer, driver functions integrated in the machine CNC, and size 16 proportional pressure control.	<p>The diagram illustrates the assembly of the hydraulic control blocks. A central synchro block (TE) is mounted on a beam. It is flanked by two prefilling blocks (2:1). The prefilling blocks are connected to beam cylinders. The beam is also connected to the central synchro block.</p>
PB06-*-HT P*-16	N° 1 central block ① with size 06 double solenoid proportional valves with position transducer and size 16 proportional pressure control. N° 1 Eurocard driver E-ME-T-25H.	
PB06-*-HTE P*-16 PB06-*-HTEB P*-16 PB06-*-HTES P*-16	as PB06-*-HT but with size 06 servoproportional valves with transducer and integral electronics: analog (HTE), digital basic (HTEB), digital full with optional fieldbus interfaces (HTES)	
PB06-*-LT L*-16	as PB06-*-HT but with size 06 single solenoid servoproportional valves, 4 position, sleeve execution, with transducer	
PB06-*-LTE L*-16 PB06-*-LTEB L*-16 PB06-*-LTES L*-16	as PB06-*-HT but with size 10 single solenoid servoproportional valves, 4 position, sleeve execution, with transducer and integral electronics: analog (LTE), digital basic (LTEB), digital full with optional fieldbus interfaces (LTES)	

5 BLOCKS ASSEMBLING

Control block solution	Composition	
<p>PB10*-HE P*-16 PB10*-HE P*-25 PB10*-HA P*-16 PB10*-HA P*-25</p>	<p>N° 1 proportional pressure control block size 16 or size 25 ③. N° 2 synchronization blocks ① with size 10 proportional valves without transducer, driver functions integrated in the machine CNC.</p>	
<p>PB10*-HT P*-16 PB10*-HT P*-25</p>	<p>N° 1 proportional pressure control block size 16 or size 25 ③. N° 2 synchronization blocks ① with size 10 servoproportional valves with transducer. N° 1 Eurocard driver E-ME-T-21H</p>	
<p>PB10*-HTE P*-16 PB10*-HTEB P*-16 PB10*-HTES P*-16 PB10*-HTE P*-25 PB10*-HTEB P*-25 PB10*-HTES P*-25</p>	<p>as PB10*-HT but with size 10 servoproportional valves, with transducer and integral electronics: analog (HTE), digital basic (HTEB), digital full with optional fieldbus interfaces (HTES)</p>	
<p>PB10*-LT L*-16 PB10*-LT L*-25</p>	<p>as PB10*-HT but with size 10 single solenoid servoproportional valve, 4 position, sleeve execution, with position transducer</p>	
<p>PB10*-LTE L*-16 PB10*-LTE L*-25</p>	<p>as PB10*-HT but with size 10 single solenoid servoproportional valve, 4 position, sleeve execution, with position transducer and integral electronics: analog (LTE), digital basic (LTEB), digital full with optional fieldbus interfaces (LTES)</p>	
<p>PB11*-HT P*-25</p> <p>PB11*-HTE P*25 PB11*-HTEB P*25 PB11*-HTES P*25</p>	<p>as PB10*-HT but with size 10P pilot operated servoproportional valve, with position transducer</p> <p>as PB10*-HT but with size 10P pilot operated servoproportional valve, with position transducer and integral electronics: analog (HTE), digital basic (HTEB), digital full with optional fieldbus interfaces (HTES)</p>	
<p>Prefilling block model code</p>	<p>Description</p>	
<p>PFB-25, 32, 40</p> <p>PFB-50, 63</p>	<p>Separated prefilling blocks ②, size 25, 32, 40 to be selected according to the machine characteristics - normally coupled with PB06 solution</p> <p>Prefilling blocks ②, size 50 or 63 to be selected according to the machine characteristics - normally coupled with PB10, PB11 solution</p>	

6 CENTRAL BLOCK DESIGN TYPE PB06

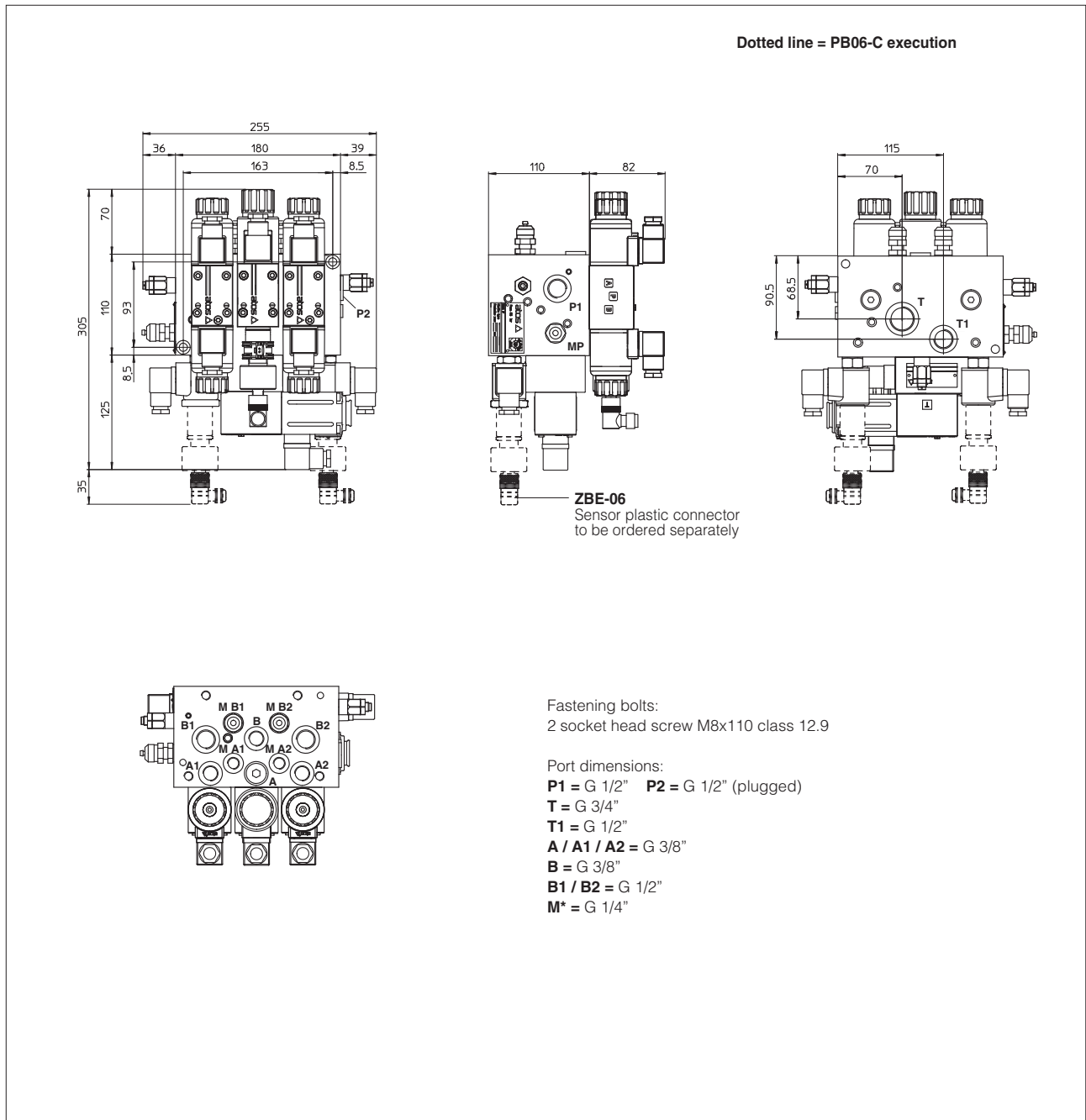
6.1 Certified hydraulic scheme -C (with -HE proportional control type)



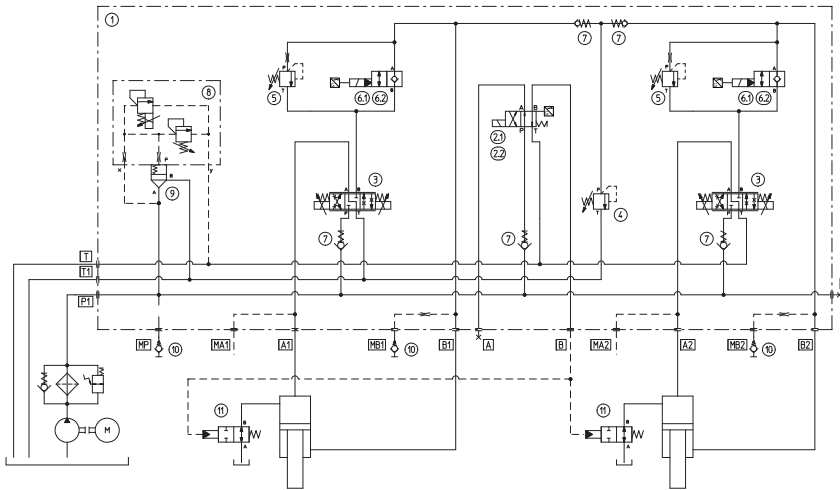
Pos	Description	Atos code	-N	-C
1	SUBPLATE		●	●
2.1	SAFETY VALVE	DHE-0631/2/FV-X		●
2.2	DIRECTIONAL VALVE	DHE-0631/2/-X	●	
3	PROPORTIONAL VALVE	150101 SDHZE-A-071-L*	●	●
4	SAFETY PRESSURE RELIEF VALVE	CART M4/350/RS	●	●
5	BALANCING VALVE	CART M4/350/R	●	●
6.1	SAFETY VALVE	JO-DL-4-2/FV-X		●
6.2	CARTRIDGE	JO-DL-4-2/NC-X	●	
7	CHECK VALVE	DR-5/G	●	●
8	PROP. RELIEF VALVE	LIMZO-A-1/315/18	●	●
9	CARTRIDGE	15-KM-503600	●	●
10	MINIMISS	Y-AK-04-GOR	●	●
11	PREFILLING VALVE		●	●

Note: the -N solution has the same hydraulic scheme but without monitor signal on valves ② and ⑥

6.2 Installation dimensions of PB06*-HE central block



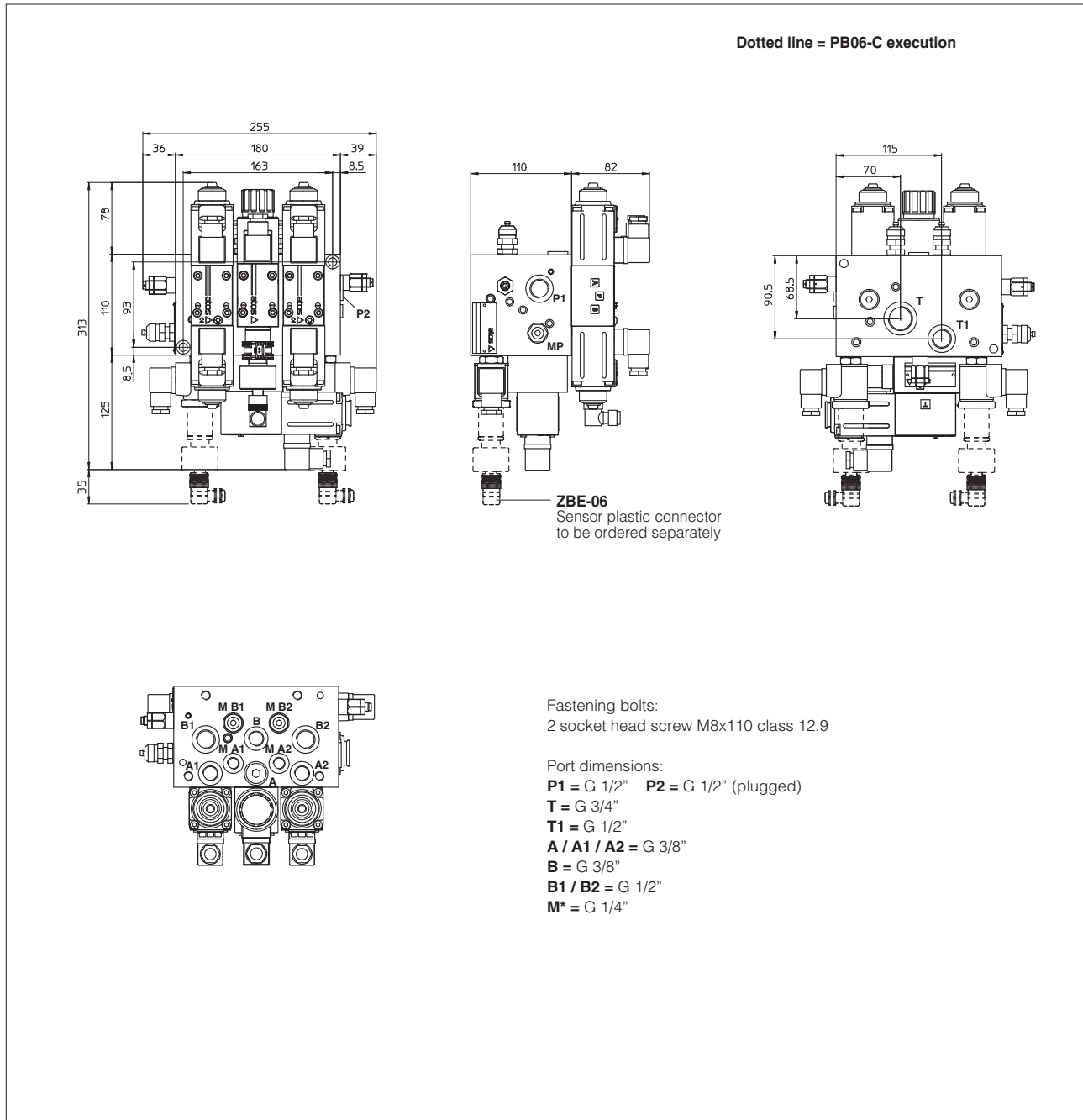
6.3 Certified hydraulic scheme -C (with -HA proportional control type)



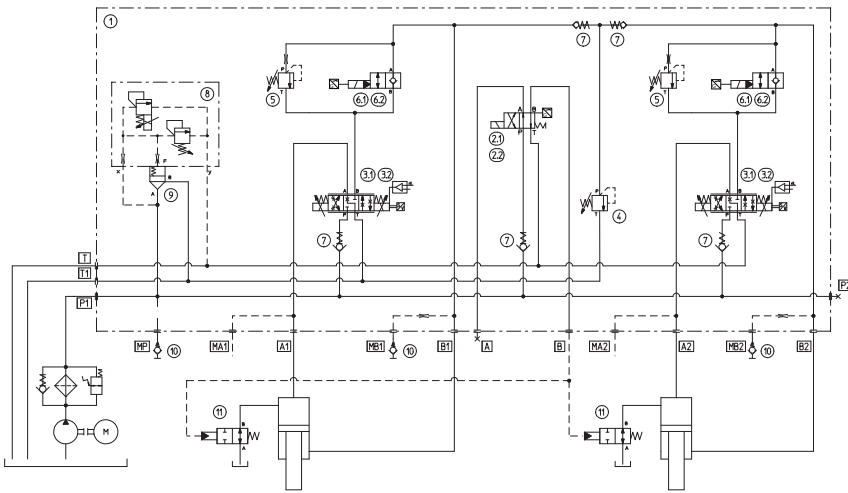
Pos	Description	Atos code	-N	-C
1	SUBPLATE		●	●
2.1	SAFETY VALVE	DHE-0631/2/FV-X		●
2.2	DIRECTIONAL VALVE	DHE-0631/2/-X	●	
3	PROPORTIONAL VALVE	090290 DHZO-A-071-L*	●	●
4	SAFETY PRESSURE RELIEF VALVE	CART M4/350/RS	●	●
5	BALANCING VALVE	CART M4/350/R	●	●
6.1	SAFETY VALVE	JO-DL-4-2/FV-X		●
6.2	CARTRIDGE	JO-DL-4-2/NC-X	●	
7	CHECK VALVE	DR-5/G	●	●
8	PROP. RELIEF VALVE	LIMZO-A-1/315/18	●	●
9	CARTRIDGE	15 -KM-503600	●	●
10	MINIMISS	Y-AK-04-GOR	●	●
11	PREFILLING VALVE		●	●

Note: the -N solution has the same hydraulic scheme but without monitor signal on valves ② and ⑥

6.4 Installation dimensions of PB06*-HA central block



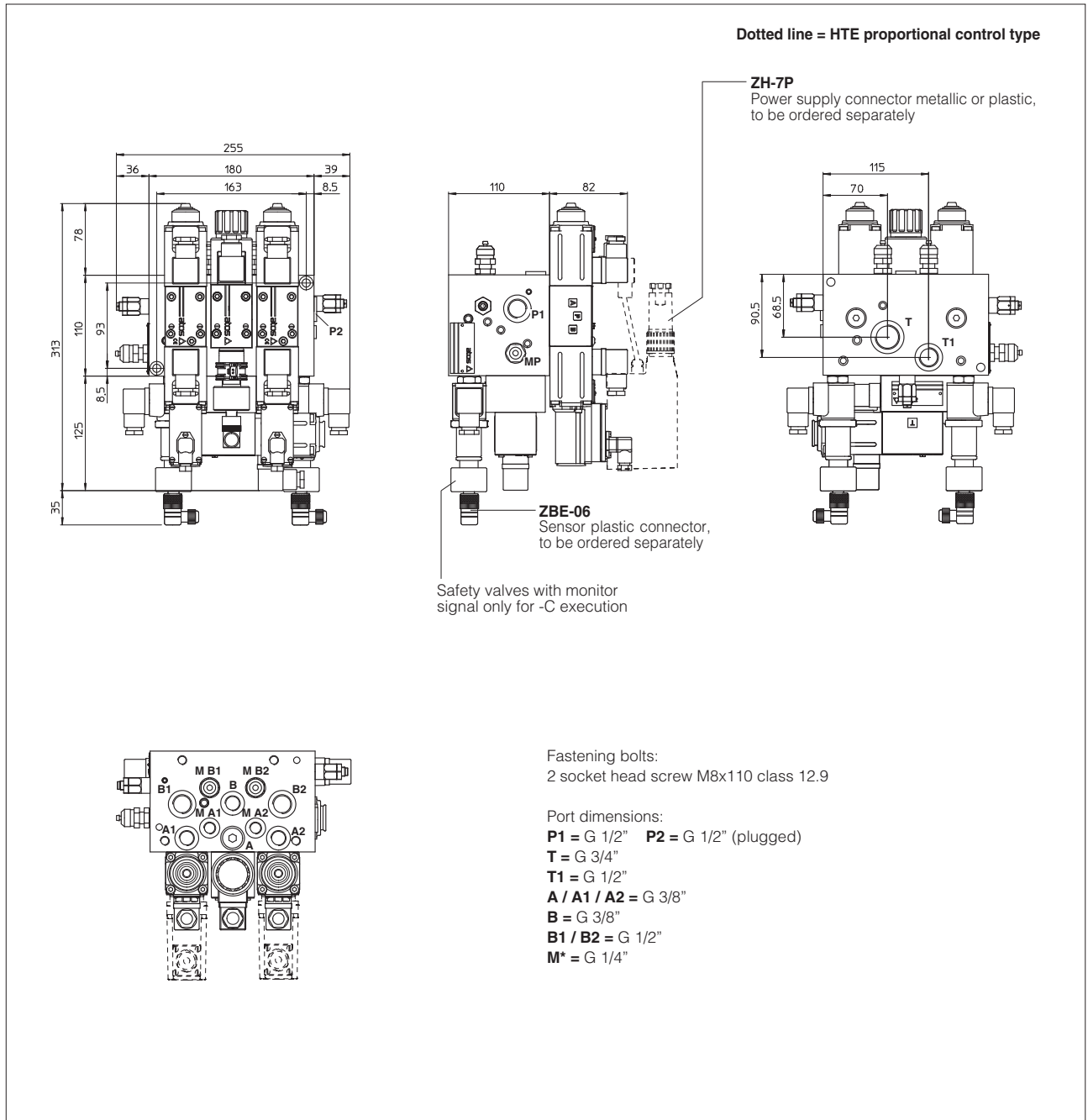
6.5 Certified hydraulic scheme -C (with -HT, -HTE proportional control type)



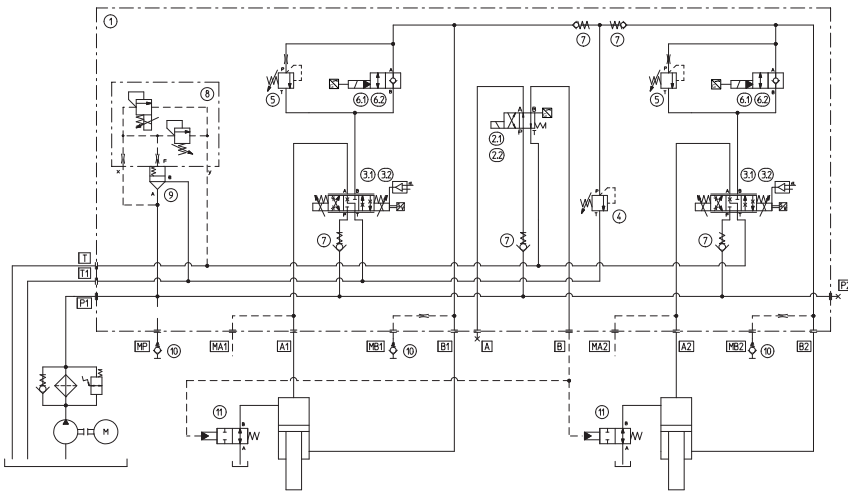
Pos	Description	Atos code	-N	-C
1	SUBPLATE		●	●
2.1	SAFETY VALVE	DHE-0631/2/FV-X		●
2.2	DIRECTIONAL VALVE	DHE-0631/2/-X	●	
3.1	PROPORTIONAL VALVE	090290 DHZO-T-071-L*	●	●
3.2	PROPORTIONAL VALVE	090290 DHZO-TE-071-L*	●	●
4	SAFETY PRESSURE RELIEF VALVE	CART M4/350/RS	●	●
5	BALANCING VALVE	CART M4/350/R	●	●
6.1	SAFETY VALVE	JO-DL-4-2/FV-X		●
6.2	CARTRIDGE	JO-DL-4-2/NC-X	●	
7	CHECK VALVE	DR-5/G	●	●
8	PROP. RELIEF VALVE	LIMZO-A-1/315/18	●	●
9	CARTRIDGE	15 -KM-503600	●	●
10	MINIMESS	Y-AK-04-GOR	●	●
11	PREFILLING VALVE		●	●

Note: the -N solution has the same hydraulic scheme but without monitor signal on valves ② and ⑥

6.6 Installation dimensions of PB06*-HT(E) central block



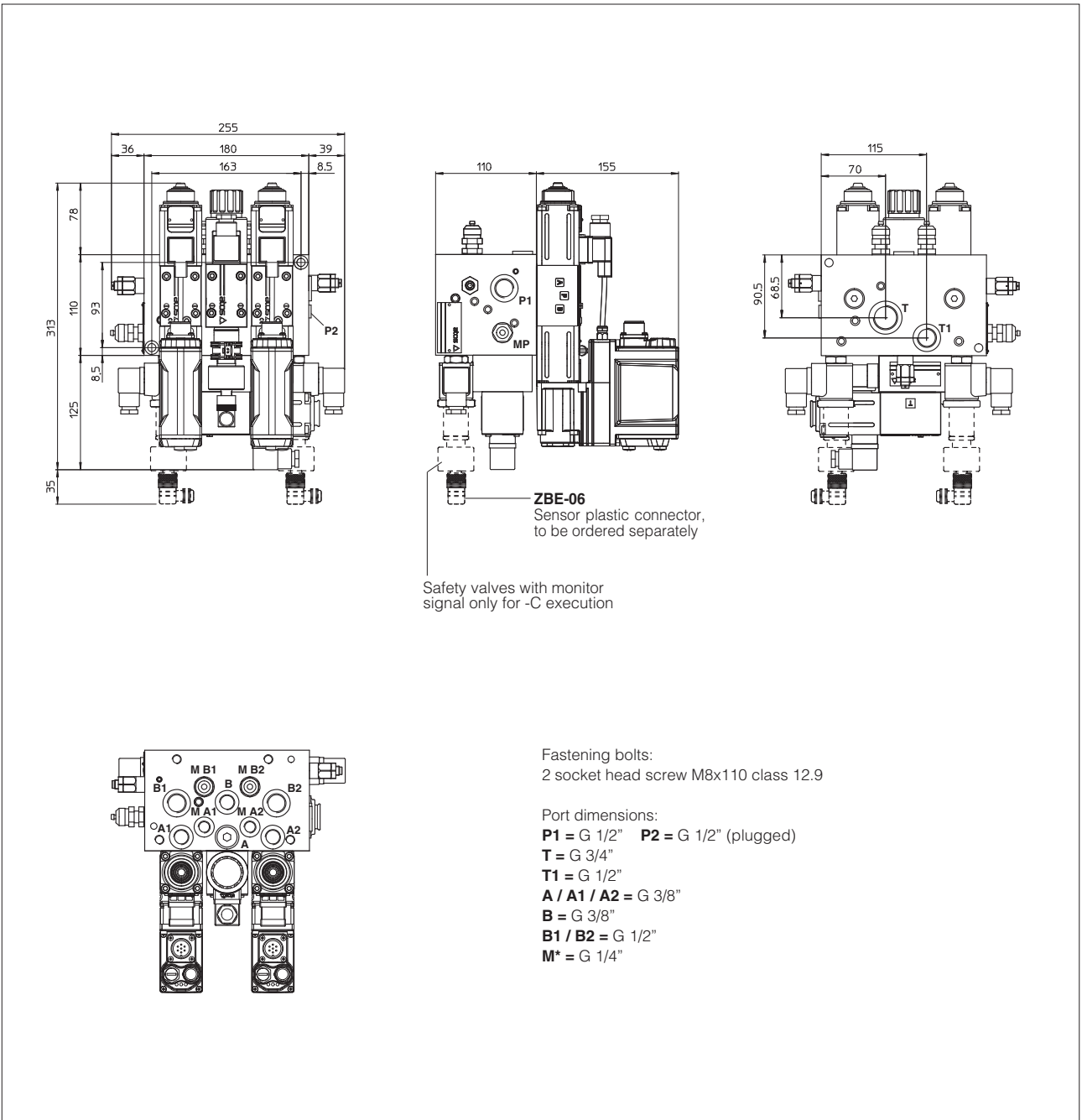
6.7 Certified hydraulic scheme -C (with -HTEB, -HTES proportional control type)



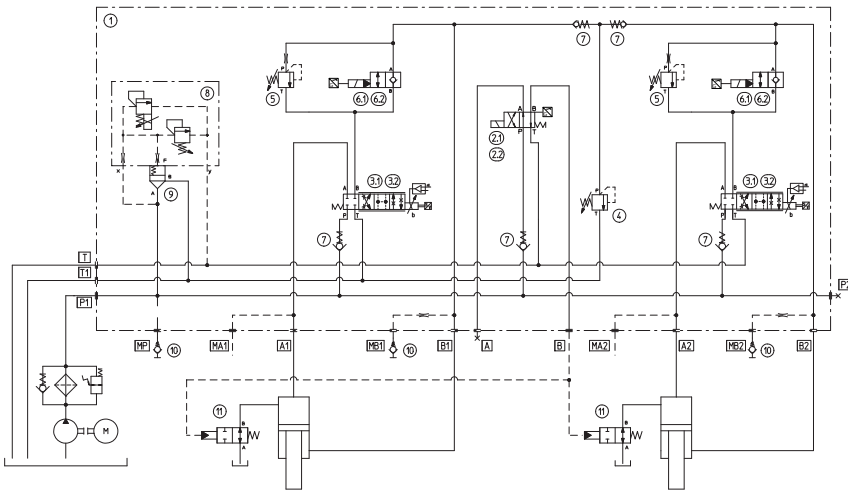
Pos	Description	Atos code	-N	-C
1	SUBPLATE		●	●
2.1	SAFETY VALVE	DHE-0631/2/FV-X		●
2.2	DIRECTIONAL VALVE	DHE-0631/2/-X	●	
3.1	PROPORTIONAL VALVE	090290 DHZO-TEB-NP-071-L*	●	●
3.2	PROPORTIONAL VALVE	090290 DHZO-TES-NP-071-L*	●	●
4	SAFETY PRESSURE RELIEF VALVE	CART M4/350/RS	●	●
5	BALANCING VALVE	CART M4/350/R	●	●
6.1	SAFETY VALVE	JO-DL-4-2/FV-X		●
6.2	CARTRIDGE	JO-DL-4-2/NC-X	●	
7	CHECK VALVE	DR-5/G	●	●
8	PROP. RELIEF VALVE	LIMZO-A-1/315/18	●	●
9	CARTRIDGE	15 -KM-503600	●	●
10	MININESS	Y-AK-04-GOR	●	●
11	PREFILLING VALVE		●	●

Note: the -N solution has the same hydraulic scheme but without monitor signal on valves ② and ⑥

6.8 Installation dimensions of PB06-*-HTES central block



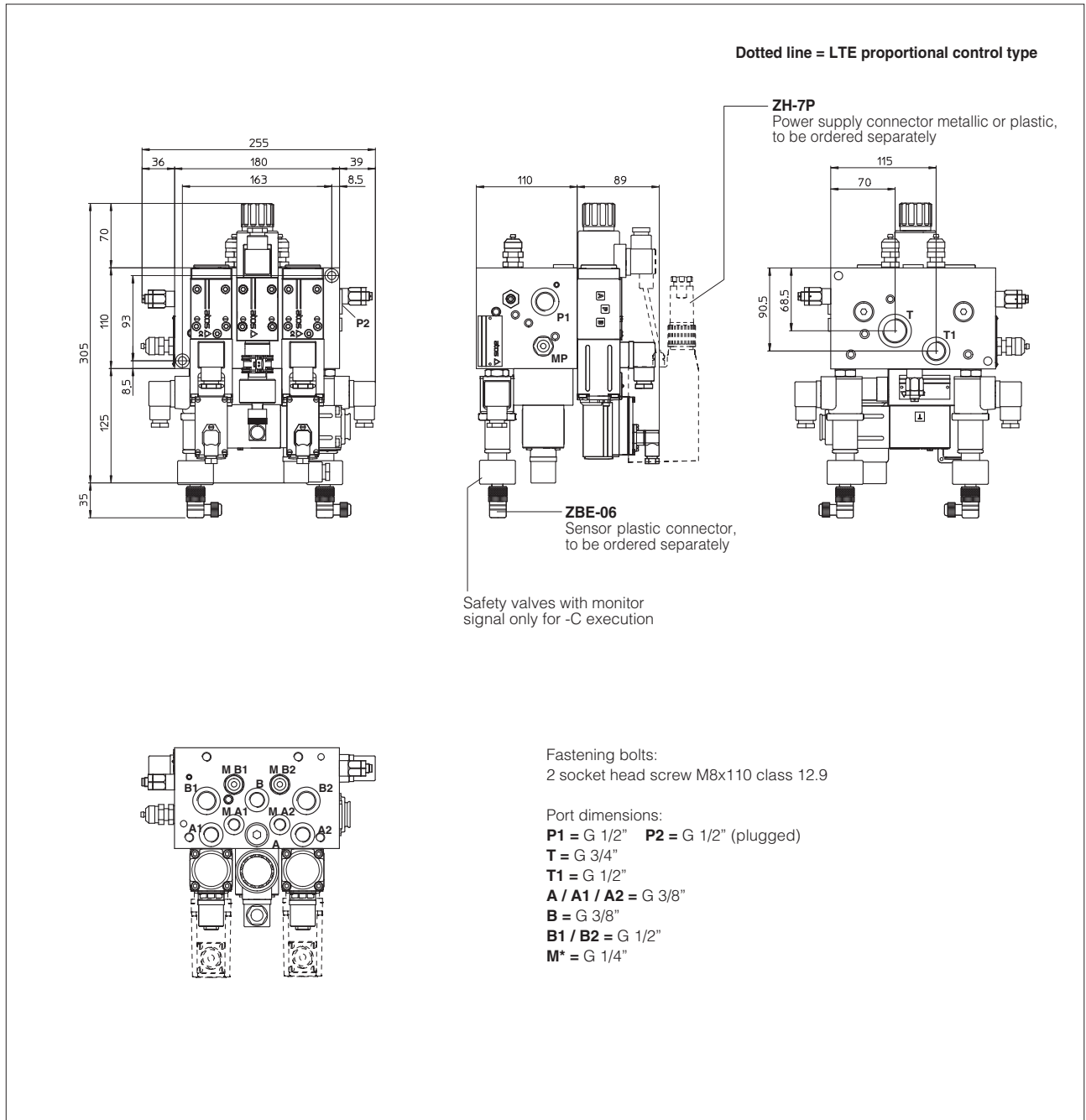
6.9 Certified hydraulic scheme -C (with -LT , -LTE proportional control type)



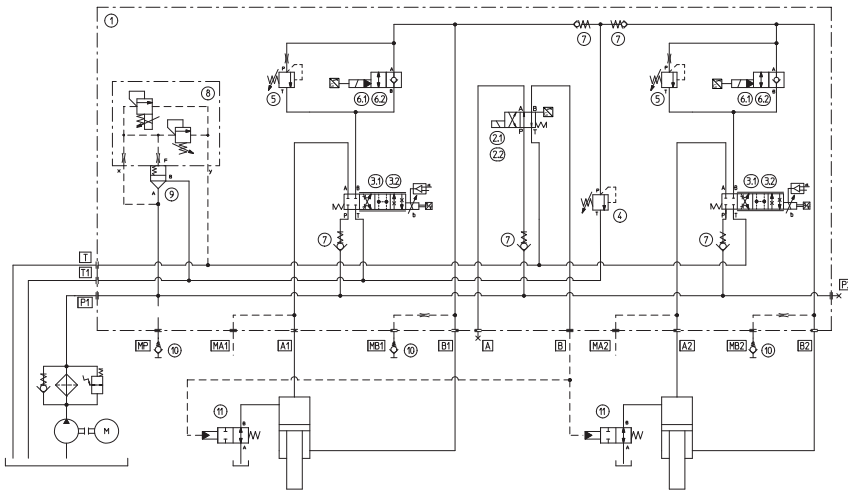
Pos	Description	Atos code	-N	-C
1	SUBPLATE		●	●
2.1	SAFETY VALVE	DHE-0631/2/FV-X		●
2.2	DIRECTIONAL VALVE	DHE-0631/2/-X	●	
3.1	SERVOPROPORTIONAL VALVE	DLHZO-T-040-L*	●	●
3.2	SERVOPROPORTIONAL VALVE	DLHZO-TE-040-L*	●	●
4	SAFETY PRESSURE RELIEF VALVE	CART M4/350/RS	●	●
5	BALANCING VALVE	CART M4/350/R	●	●
6.1	SAFETY VALVE	JO-DL-4-2/FV-X		●
6.2	CARTRIDGE	JO-DL-4-2/NC-X	●	
7	CHECK VALVE	DR-5/G	●	●
8	PROP. RELIEF VALVE	LIMZO-A-1/315/18	●	●
9	CARTRIDGE	15 -KM-503600	●	●
10	MINIMESS	Y-AK-04-GOR	●	●
11	PREFILLING VALVE		●	●

Note: the -N solution has the same hydraulic scheme but without monitor signal on valves ② and ⑥

6.10 Installation dimensions of PB06*-LT(E) central block



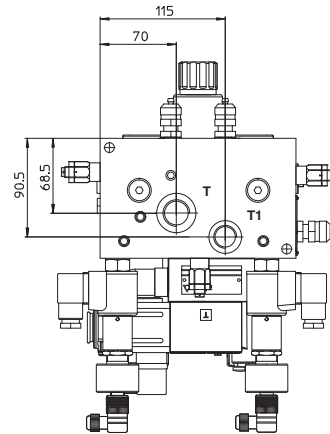
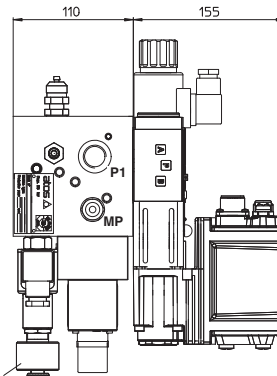
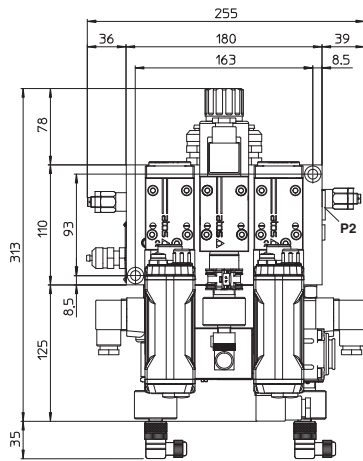
6.11 Certified hydraulic scheme -C (with -LTEB , -LTES proportional control type)



Pos	Description	Atos code	-N	-C
1	SUBPLATE		●	●
2.1	SAFETY VALVE	DHE-0631/2/FV-X		●
2.2	DIRECTIONAL VALVE	DHE-0631/2/-X	●	
3.1	SERVOPROPORTIONAL VALVE	DLHZO-TEB-NP-040-L*	●	●
3.2	SERVOPROPORTIONAL VALVE	DLHZO-TES-NP-040-L*	●	●
4	SAFETY PRESSURE RELIEF VALVE	CART M4/350/RS	●	●
5	BALANCING VALVE	CART M4/350/R	●	●
6.1	SAFETY VALVE	JO-DL-4-2/FV-X		●
6.2	CARTRIDGE	JO-DL-4-2/NC-X	●	
7	CHECK VALVE	DR-5/G	●	●
8	PROP. RELIEF VALVE	LIMZO-A-1/315/18	●	●
9	CARTRIDGE	15 -KM-503600	●	●
10	MINIMESS	Y-AK-04-GOR	●	●
11	PREFILLING VALVE		●	●

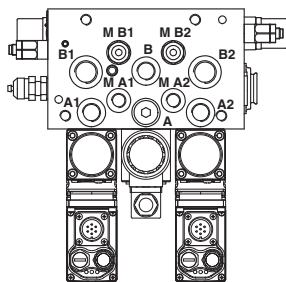
Note: the -N solution has the same hydraulic scheme but without monitor signal on valves ② and ④

6.12 Installation dimensions of PB06*-LTES central block



ZBE-06
Sensor plastic connector,
to be ordered separately

Safety valves with monitor
signal only for -C execution

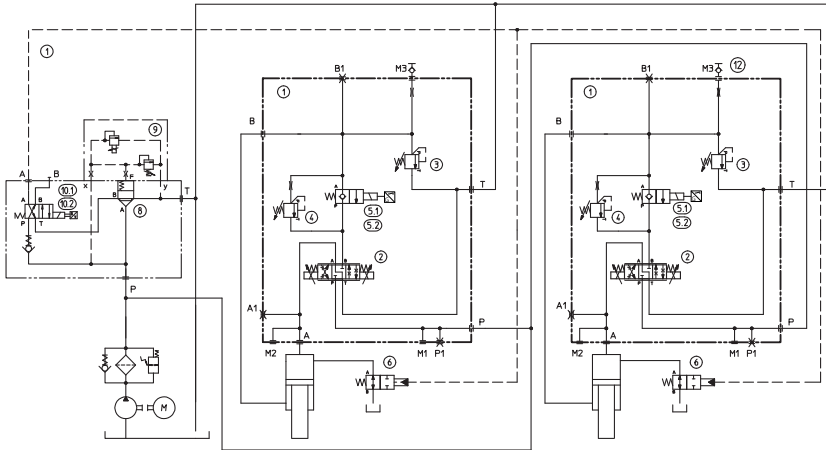


Fastening bolts:
2 socket head screw M8x110 class 12.9

Port dimensions:
P1 = G 1/2" **P2** = G 1/2" (plugged)
T = G 3/4"
T1 = G 1/2"
A / A1 / A2 = G 3/8"
B = G 3/8"
B1 / B2 = G 1/2"
M* = G 1/4"

7 MODULAR BLOCK DESIGN TYPE PB10

7.1 Certified hydraulic scheme -C (with -HE proportional control type)



Pos	Description	Atos code	-N	-C
1	SUBPLATE		●	●
2	PROPORTIONAL VALVE	150102 DKZE-A-171-L*	●	●
3	SAFETY PRESSURE RELIEF VALVE	CART M6/350/RS	●	●
4	BALANCING VALVE	CART M6/350/R	●	●
5.1	SAFETY VALVE	JO-DL-10-2/FV-X		●
5.2	CARTRIDGE	JO-DL-10-2/NC-X	●	
6	PREFILLING VALVE		●	●
7	SUBPLATE	SEE SECTION 9		
8	CARTRIDGE			
9	PROP. PRESSURE VALVE			
10.1	SAFETY VALVE			
10.2	DIRECTIONAL VALVE			
11	CHECK VALVE			
12	MINI-MESS	Y-AK-04-GOR	●	●

Note: the -N solution has the same hydraulic scheme but without monitor signal on valves ⑤ and ⑩

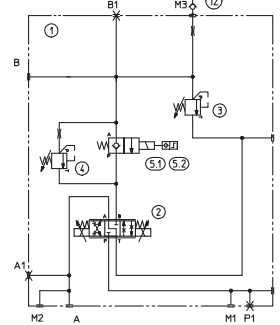
7.2 Installation dimensions of PB10*-HE synchronization block (for pressure control blocks see section 9.2)

SYNCHRONIZATION CONTROL BLOCK

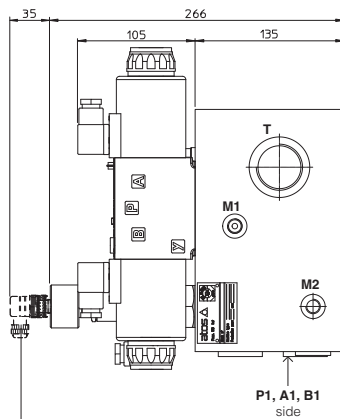
Fastening bolts:
4 socket head screw M8x140 class 12.9

Port dimensions:
P = G 1" **P1** = G 1" (plugged)
T = G 1 1/4"
A / A1 = G 3/4"
B / B1 = G 1"
M* = G 1/4"

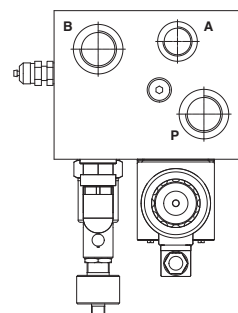
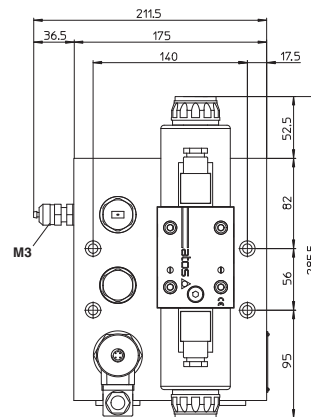
Hydraulic scheme



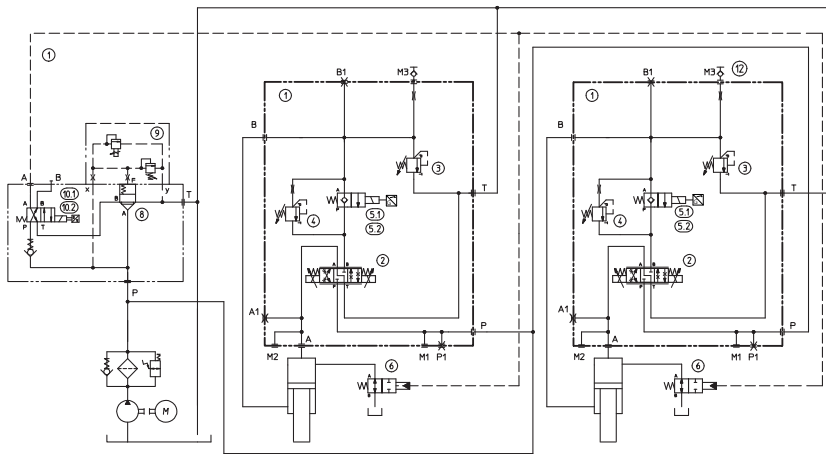
Dotted line = PBBC execution



ZBE-06
Sensor plastic connector
to be ordered separately



7.3 Certified hydraulic scheme -C (with -HA proportional control type)



Pos	Description	Atos code	-N	-C
1	SUBPLATE		●	●
2	PROPORTIONAL VALVE	070256 DKZOR-A-171-L*	●	●
3	SAFETY PRESSURE RELIEF VALVE	CART M6/350/RS	●	●
4	BALANCING VALVE	CART M6/350/R	●	●
5.1	SAFETY VALVE	JO-DL-10-2/FV-X		●
5.2	CARTRIDGE	JO-DL-10-2/NC-X	●	
6	PREFILLING VALVE		●	●
7	SUBPLATE	SEE SECTION 9		
8	CARTRIDGE			
9	PROP. PRESSURE VALVE			
10.1	SAFETY VALVE			
10.2	DIRECTIONAL VALVE			
11	CHECK VALVE			
12	MINIMESS	Y-AK-04-GOR	●	●

Note: the -N solution has the same hydraulic scheme but without monitor signal on valves ⑤ and ⑩

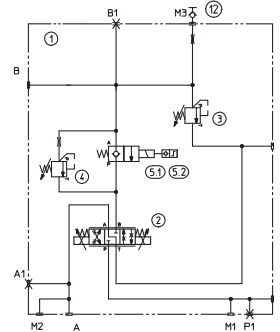
7.4 Installation dimensions of PB10⁻-HA synchronization block (for pressure control blocks see section 9.2)

SYNCHRONIZATION CONTROL BLOCK

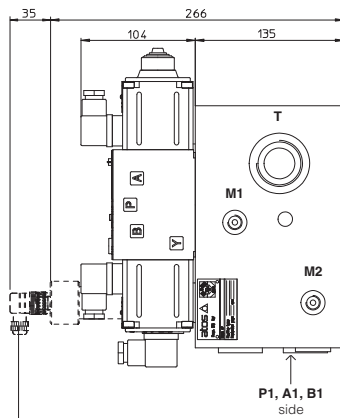
Fastening bolts:
4 socket head screw M8x140 class 12.9

Port dimensions:
P = G 1" **P1** = G 1" (plugged)
T = G 1 1/4"
A / A1 = G 3/4"
B / B1 = G 1"
M* = G 1/4"

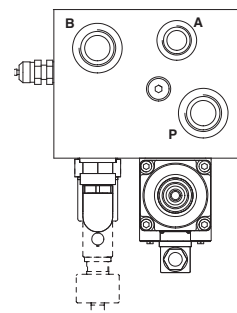
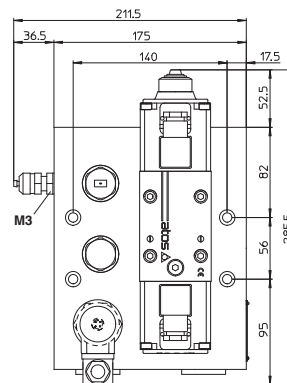
Hydraulic scheme



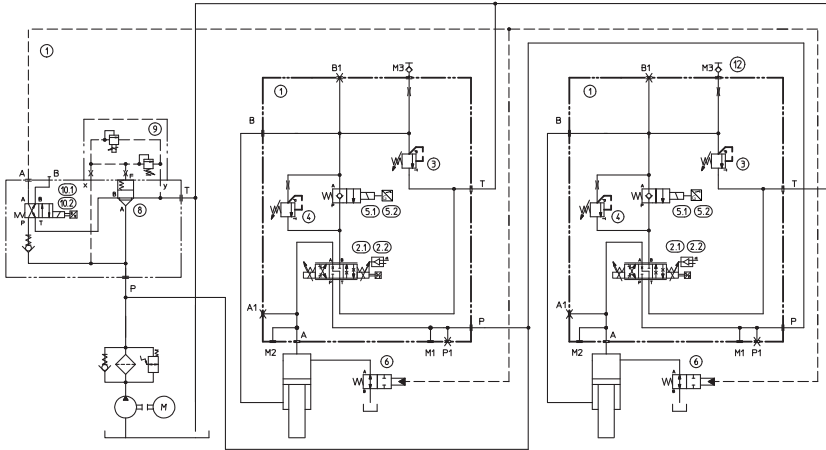
Dotted line = PBBC execution



ZBE-06
Sensor plastic connector
to be ordered separately



7.5 Certified hydraulic scheme -C (with -HT, -HTE proportional control type)



Pos	Description	Atos code	-N	-C
1	SUBPLATE		●	●
2.1	PROPORTIONAL VALVE	070256 DKZOR-T-171-L*	●	●
2.2	PROPORTIONAL VALVE	070256 DKZOR-TE-171-L*	●	●
3	SAFETY PRESSURE RELIEF VALVE	CART M6/350/RS	●	●
4	BALANCING VALVE	CART M6/350/R	●	●
5.1	SAFETY VALVE	JO-DL-10-2/FV-X		●
5.2	CARTRIDGE	JO-DL-10-2/NC-X	●	
6	PREFILLING VALVE		●	●
7	SUBPLATE			
8	CARTRIDGE			
9	PROP. PRESSURE RELIEF VALVE			
10.1	SAFETY VALVE			
10.2	DIRECTIONAL VALVE			
11	CHECK VALVE			
12	MINIMESS	Y-AK-04-GOR	●	●

Note: the -N solution has the same hydraulic scheme but without monitor signal on valves ⑤ and ⑩

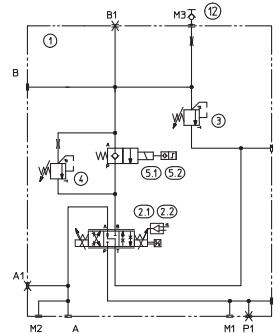
7.6 Installation dimensions of PB10⁻-HT(E) synchronization block (for pressure control blocks see section 9.2)

SYNCHRONIZATION CONTROL BLOCK

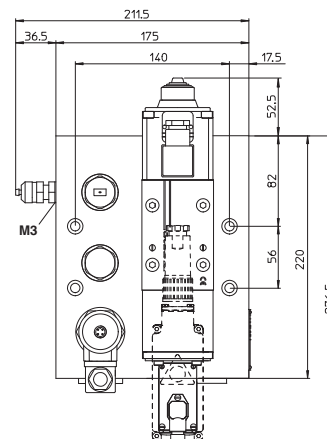
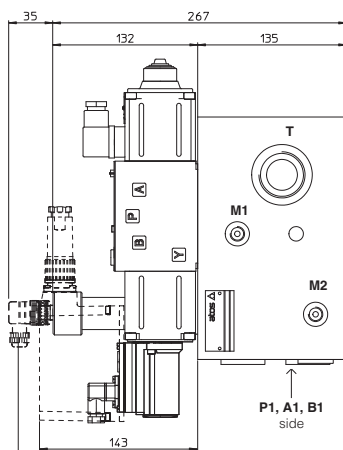
Fastening bolts:
4 socket head screw M8x140 class 12.9

Port dimensions:
P = G 1" **P1** = G 1" (plugged)
T = G 1 1/4"
A / A1 = G 3/4"
B / B1 = G 1"
M* = G 1/4"

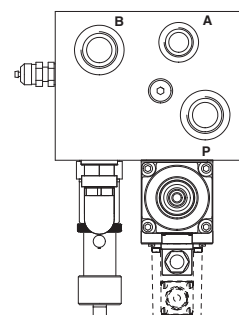
Hydraulic scheme



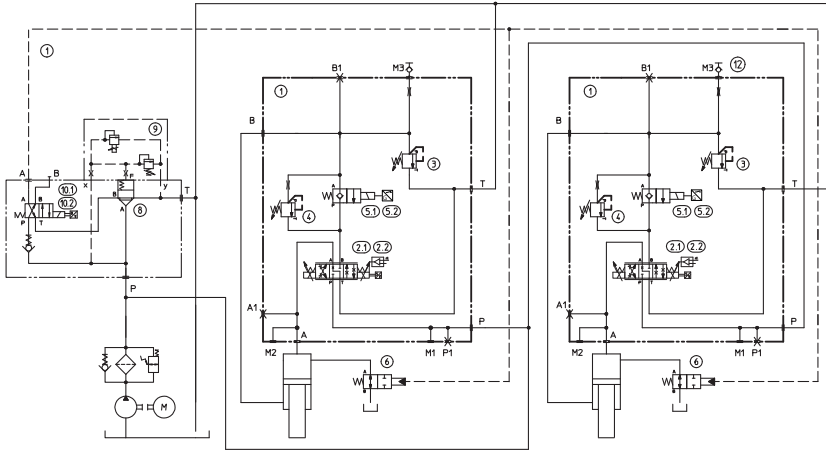
Dotted line = HTE execution



ZBE-06
Sensor plastic connector
to be ordered separately



7.7 Certified hydraulic scheme -C (with -HTEB, -HTES proportional control type)



Pos	Description	Atos code	-N	-C
1	SUBPLATE		●	●
2.1	PROPORTIONAL VALVE	150102 DKZOR-TEB-NP-171-L*	●	●
2.2	PROPORTIONAL VALVE	150102 DKZOR-TES-NP-171-L*	●	●
3	SAFETY PRESSURE RELIEF VALVE	CART M6/350/RS	●	●
4	BALANCING VALVE	CART M6/350/R	●	●
5.1	SAFETY VALVE	JO-DL-10-2/FV-X		●
5.2	CARTRIDGE	JO-DL-10-2/NC-X	●	
6	PREFILLING VALVE		●	●
7	SUBPLATE			
8	CARTRIDGE			
9	PROP. PRESSURE VALVE			
10.1	SAFETY VALVE			
10.2	DIRECTIONAL VALVE			
11	CHECK VALVE			
12	MINIMESS	Y-AK-04-GOR	●	●

Note: the -N solution has the same hydraulic scheme but without monitor signal on valves ⑤ and ⑩

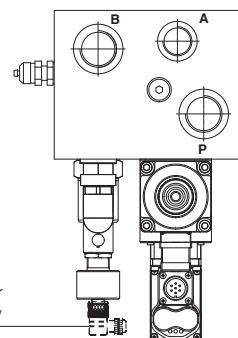
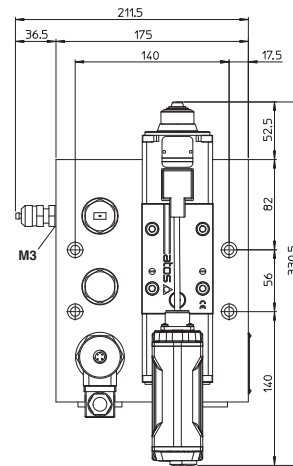
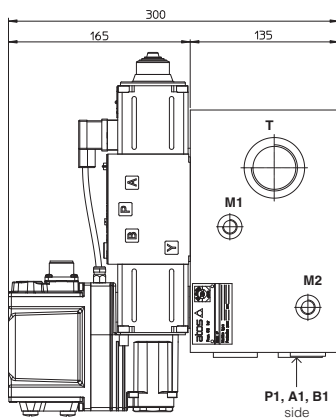
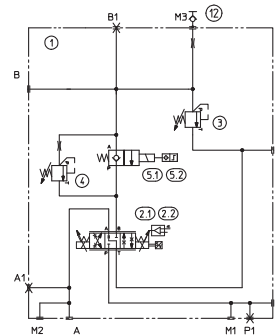
7.8 Installation dimensions of PB10*-HTES synchronization block (for pressure control blocks see section 9.2)

SYNCHRONIZATION CONTROL BLOCK

Fastening bolts:
4 socket head screw M8x140 class 12.9

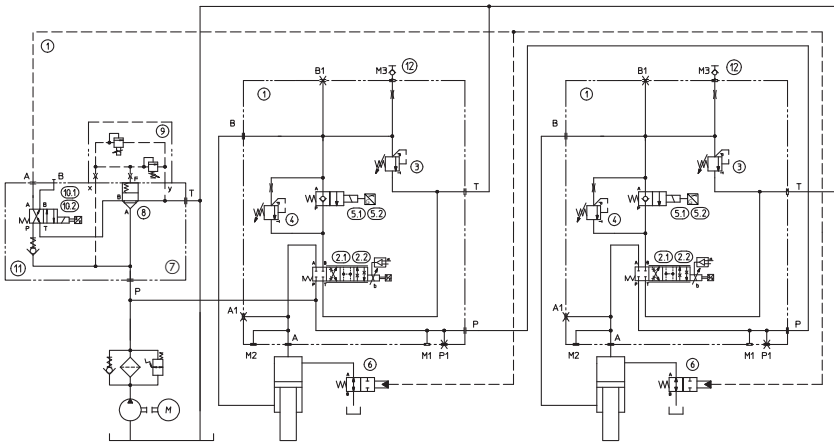
Port dimensions:
P = G 1" **P1** = G 1" (plugged)
T = G 1 1/4"
A / A1 = G 3/4"
B / B1 = G 1"
M* = G 1/4"

Hydraulic scheme



ZBE-06
Sensor plastic connector
to be ordered separately

7.9 Certified hydraulic scheme -C (with -LT, -LTE proportional control type)



Pos	Description	Atos code	-N	-C
1	SUBPLATE		●	●
2.1	SERVOPROPORTIONAL VALVE	DLKZOR-T-140-L*	●	●
2.2	SERVOPROPORTIONAL VALVE	DLKZOR-TE-140-L*	●	●
3	SAFETY PRESSURE RELIEF VALVE	CART M6/350/RS	●	●
4	BALANCING VALVE	CART M6/350/R	●	●
5.1	SAFETY VALVE	JO-DL-10-2/FV-X		●
5.2	CARTRIDGE	JO-DL-10-2/NC-X	●	
6	PREFILLING VALVE		●	●
7	SUBPLATE	SEE SECTION 9		
8	CARTRIDGE			
9	PROP. PRESSURE VALVE			
10.1	SAFETY VALVE			
10.2	DIRECTIONAL VALVE			
11	CHECK VALVE			
12	MINIMESS	Y-AK-04-GOR	●	●

Note: the PBB solution has the same hydraulic scheme but without monitor signal on valves ⑤ and ⑩

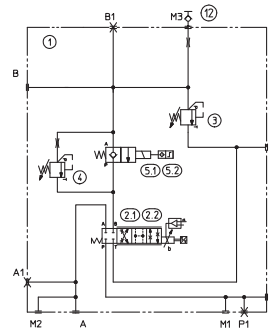
7.10 Installation dimensions of PB10*-LT(E) synchronization block (for pression control blocks see section 9.2)

SYNCHRONIZATION CONTROL BLOCK

Fastening bolts:
4 socket head screw M8x140 class 12.9

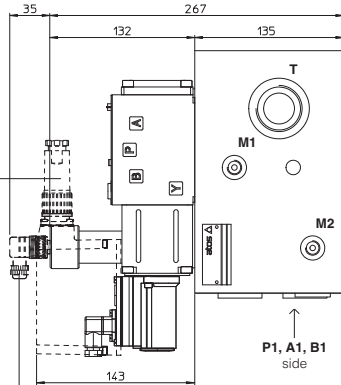
Port dimensions:
P = G 1" **P1** = G 1" (plugged)
T = G 1 1/4"
A / A1 = G 3/4"
B / B1 = G 1"
M* = G 1/4"

Hydraulic scheme

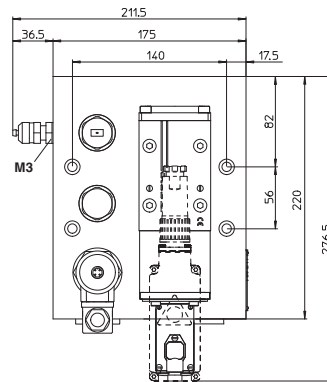


Dotted line = TE proportional control type

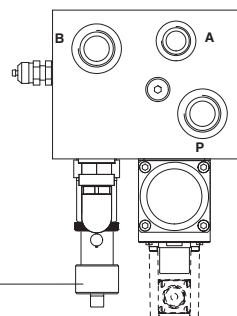
ZH-7P
Power supply connector metallic or plastic, to be ordered separately



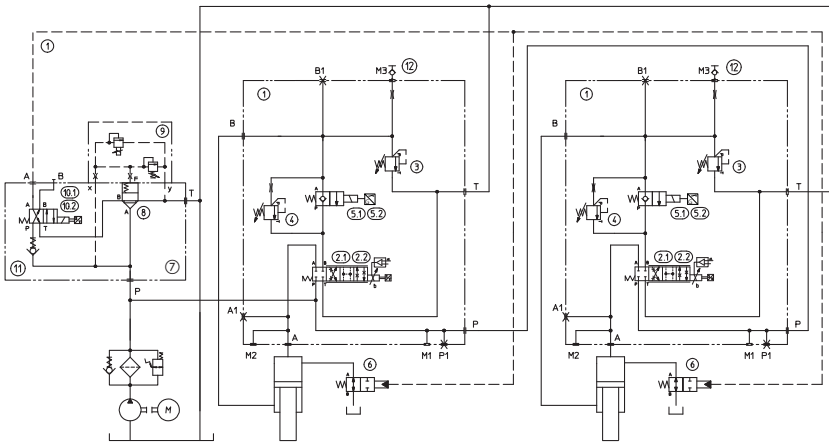
ZBE-06
Sensor connector plastic to be ordered separately



Safety valve with monitor signal only for -C execution



7.11 Certified hydraulic scheme -C (with -LTEB, -LTES proportional control type)



Pos	Description	Atos code	-N	-C
1	SUBPLATE		●	●
2.1	SERVOPROPORTIONAL VALVE	DLKZOR-TEB-SN-NP-140-L*	●	●
2.2	SERVOPROPORTIONAL VALVE	DLKZOR-TES-SN-NP-140-L*	●	●
3	SAFETY PRESSURE RELIEF VALVE	CART M6/350/RS	●	●
4	BALANCING VALVE	CART M6/350/R	●	●
5.1	SAFETY VALVE	JO-DL-10-2/FV-X		●
5.2	CARTRIDGE	JO-DL-10-2/NC-X	●	
6	PREFILLING VALVE		●	●
7	SUBPLATE	SEE SECTION 9		
8	CARTRIDGE			
9	PROP. PRESSURE VALVE			
10.1	SAFETY VALVE			
10.2	DIRECTIONAL VALVE			
11	CHECK VALVE			
12	MINIMISS	Y-AK-04-GOR	●	●

Note: the PBB solution has the same hydraulic scheme but without monitor signal on valves ⑤ and ⑩

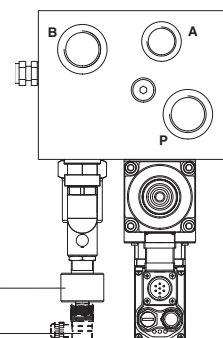
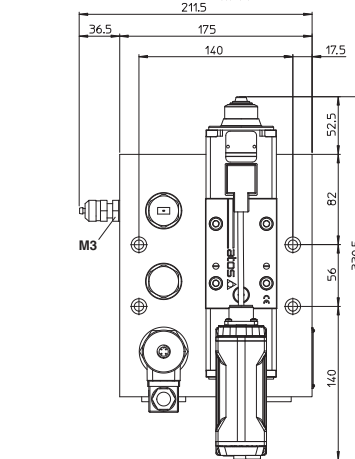
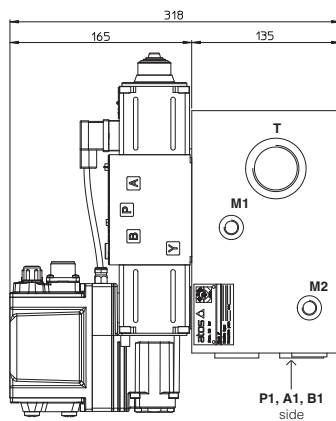
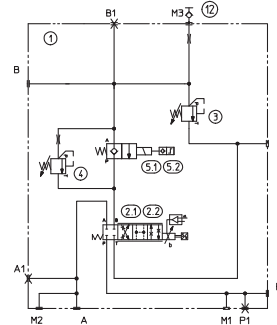
7.12 Installation dimensions of PB10*-LTES synchronization block (for pression control blocks see section 9.2)

SYNCHRONIZATION CONTROL BLOCK

Fastening bolts:
4 socket head screw M8x140 class 12.9

Port dimensions:
P = G 1" **P1** = G 1" (plugged)
T = G 1 1/4"
A / A1 = G 3/4"
B / B1 = G 1"
M* = G 1/4"

Hydraulic scheme

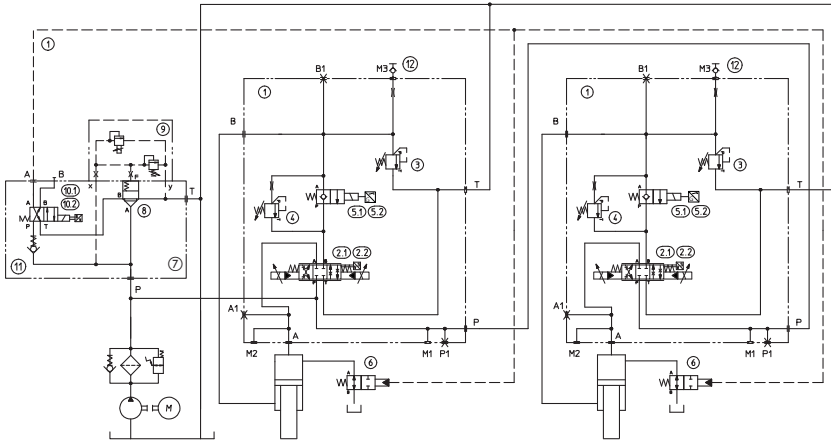


Safety valve with monitor signal only for -C execution

ZBE-06
Sensor connector plastic to be ordered separately

8 MODULAR BLOCK DESIGN TYPE PB11

8.1 Certified hydraulic scheme -C (with -HT, -HTE proportional control type)



Pos	Description	Atos code	-N	-C
1	SUBPLATE		●	●
2.1	PROPORTIONAL VALVE	100270 DPZO-T-171-L5	●	●
2.2	PROPORTIONAL VALVE	100270 DPZO-TE-171-L5	●	●
3	SAFETY PRESSURE RELIEF VALVE	CART M6/350/RS	●	●
4	BALANCING VALVE	CART M6/350/R	●	●
5.1	SAFETY VALVE	JO-DL-10-2/FV-X		●
5.2	CARTRIDGE	JO-DL-10-2/NC-X	●	
6	PREFILLING VALVE		●	●
7	SUBPLATE	SEE SECTION 9		
8	CARTRIDGE			
9	PROP. PRESSURE VALVE			
10.1	SAFETY VALVE			
10.2	DIRECTIONAL VALVE			
11	CHECK VALVE			
12	MINIMESS	Y-AK-04-GOR	●	●

Note: the PBB solution has the same hydraulic scheme but without monitor signal on valves ⑤ and ⑩

8.2 Installation dimensions of PB11-* -HT(E) synchronization block (for pression control blocks see section 9.2)

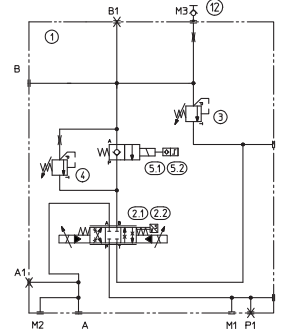
SYNCHRONIZATION CONTROL BLOCK

Fastening bolts:
4 socket head screw M8x140 class 12.9

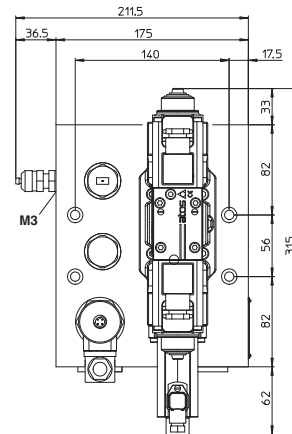
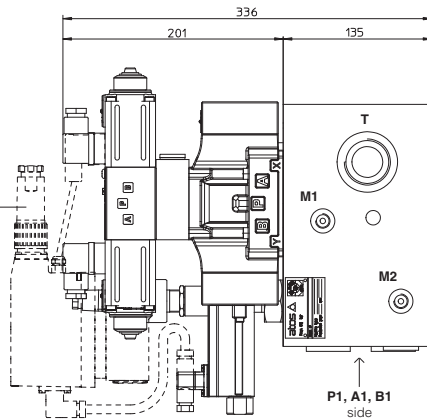
Port dimensions:
P = G 1" **P1** = G 1" (plugged)
T = G 1 1/4"
A / A1 = G 3/4"
B / B1 = G 1"
M* = G 1/4"

Dotted line = TE proportional control type

Hydraulic scheme

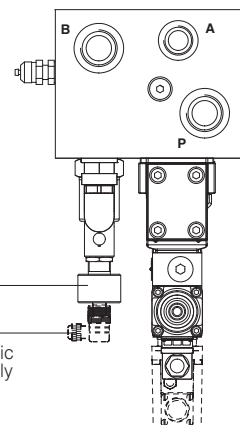


ZH-7P
Power supply connector metallic or plastic, to be ordered separately

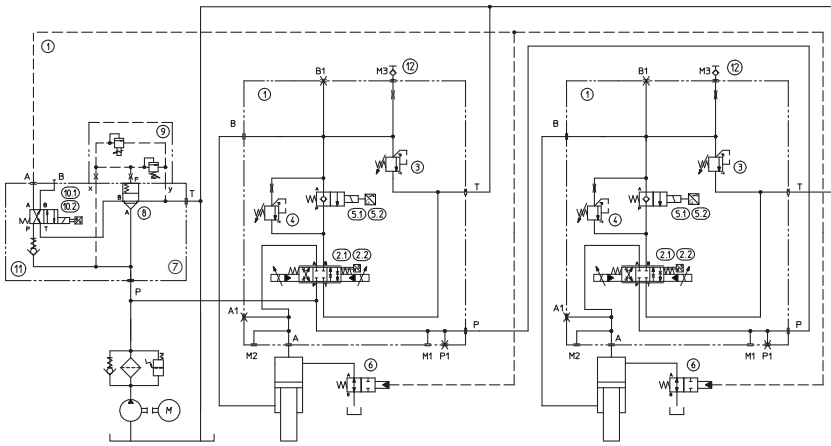


Safety valve with monitor signal only for -C execution

ZBE-06
Sensor connector plastic to be ordered separately



8.3 Certified hydraulic scheme -C (with -HTEB, -HTES proportional control type)



Pos	Description	Atos code	-N	-C
1	SUBPLATE		●	●
2.1	PROPORTIONAL VALVE	150104 DPZO-TEB-NP-171-L5	●	●
2.2	PROPORTIONAL VALVE	150104 DPZO-TES-NP-171-L5	●	●
3	SAFETY PRESSURE RELIEF VALVE	CART M6/350/RS	●	●
4	BALANCING VALVE	CART M6/350/R	●	●
5.1	SAFETY VALVE	JO-DL-10-2/FV-X		●
5.2	CARTRIDGE	JO-DL-10-2/NC-X	●	
6	PREFILLING VALVE		●	●
7	SUBPLATE			
8	CARTRIDGE			
9	PROP. PRESSURE VALVE			
10.1	SAFETY VALVE			
10.2	DIRECTIONAL VALVE			
11	CHECK VALVE			
12	MINI-MESS	Y-AK-04-GOR	●	●

Note: the PBB solution has the same hydraulic scheme but without monitor signal on valves ⑤ and ⑩

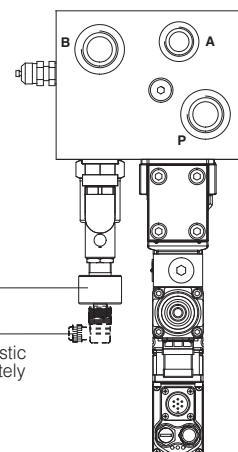
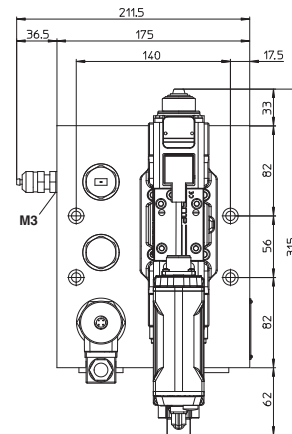
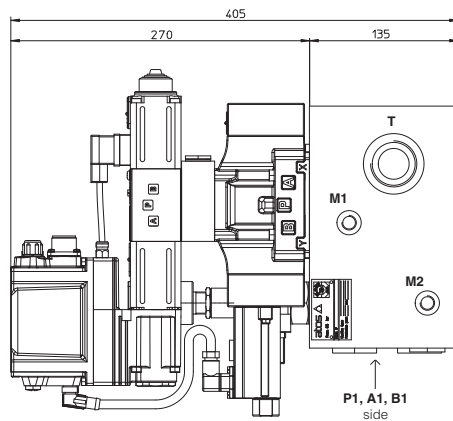
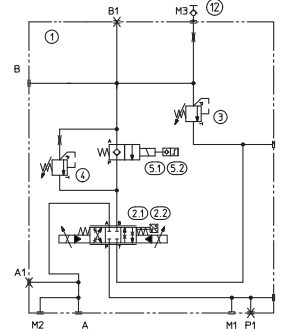
8.4 Installation dimensions of PB11*-HTES synchronization block (for pression control blocks see section 9.2)

SYNCHRONIZATION CONTROL BLOCK

Fastening bolts:
4 socket head screw M8x140 class 12.9

Port dimensions:
P = G 1" **P1** = G 1" (plugged)
T = G 1 1/4"
A / A1 = G 3/4"
B / B1 = G 1"
M* = G 1/4"

Hydraulic scheme

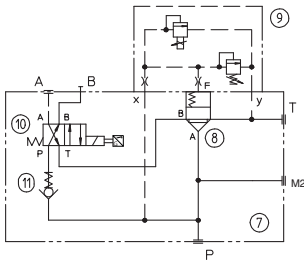


Safety valve with monitor signal only for -C execution

ZH-4P/68
Sensor connector plastic to be ordered separately

9 PRESSURE CONTROL BLOCK (FOR PB-10 AND PB-11)

9.1 Hydraulic scheme of pressure control blocks for PB1*



Composition of pressure control block size 16

Pos	Description	Atos code	-N	-C
7	SUBPLATE		●	●
8	CARTRIDGE	SC LI-16313	●	●
9	PROP. PRESSURE VALVE	LIMZO-A-1/315/18	●	●
10.1	SAFETY VALVE	DHE-0631/2/AFV-X		●
10.2	DIRECTIONAL VALVE	DHE-0631/2/A/NC-X	●	
11	CHECK VALVE	CART ADR-10	●	●

Composition of pressure control block size 25

Pos	Description	Atos code	-N	-C
7	SUBPLATE		●	●
8	CARTRIDGE	SC LI-25313	●	●
9	PROP. PRESSURE VALVE	LIMZO-A-2/315/18	●	●
10.1	SAFETY VALVE	DHE-0631/2/AFV-X		●
10.2	DIRECTIONAL VALVE	DHE-0631/2/A/NC-X	●	
11	CHECK VALVE	CART ADR-10	●	●

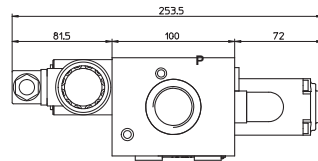
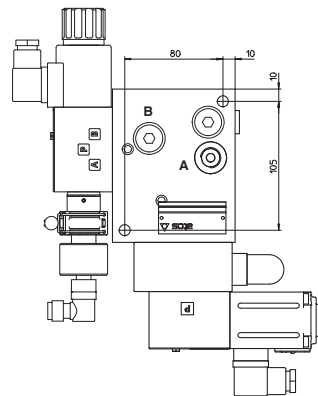
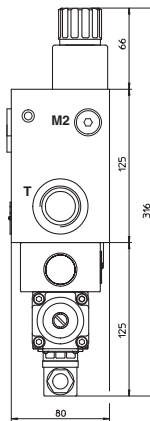
9.2 Installation dimensions of PB10 and PB11 pressure control blocks

PRESSURE CONTROL BLOCK size 16

Fastening bolts:
2 socket head screw M8x95 class 12.9

Port dimensions:

P = G 1"
T = G 1"
A = G 3/8"
B = G 3/8"
M2 = G 1/4"

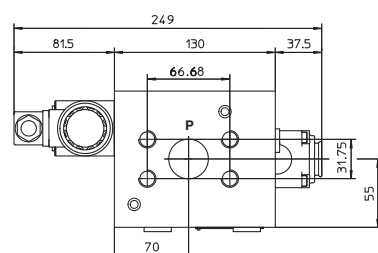
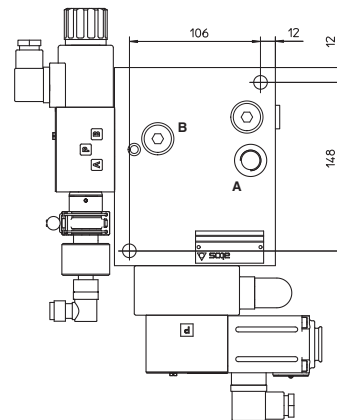
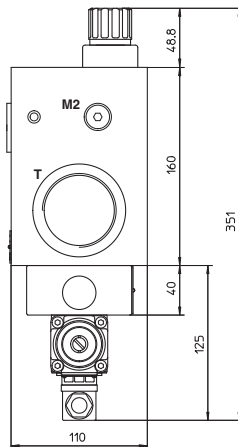


PRESSURE CONTROL BLOCK size 25

Fastening bolts:
2 socket head screw M10x115 class 12.9

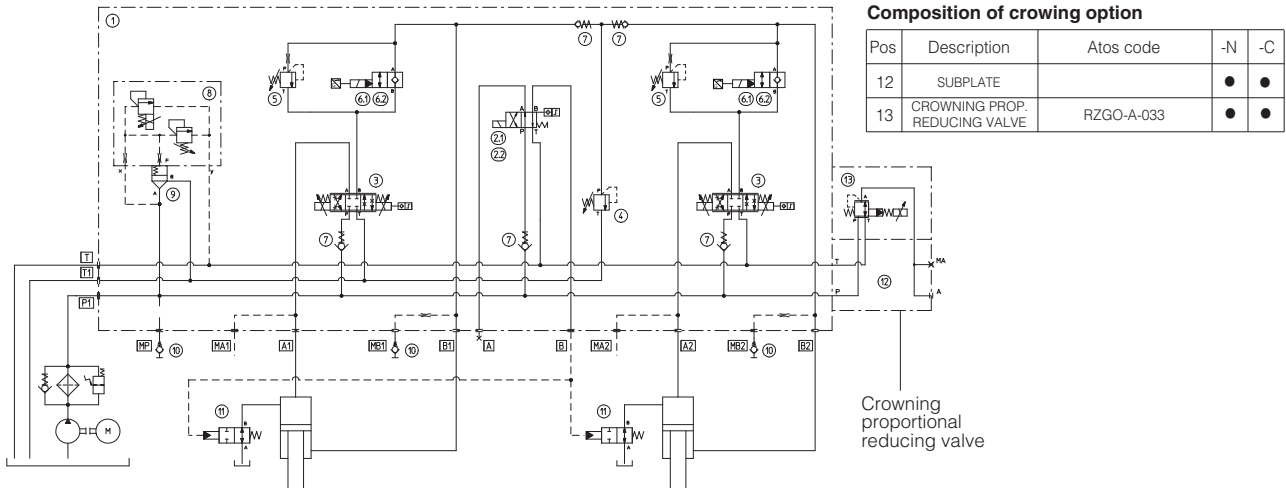
Port dimensions:

P = 1 1/4" SAE 6000
T = G 2"
A = G 3/8"
B = G 3/8"
M2 = G 1/4"



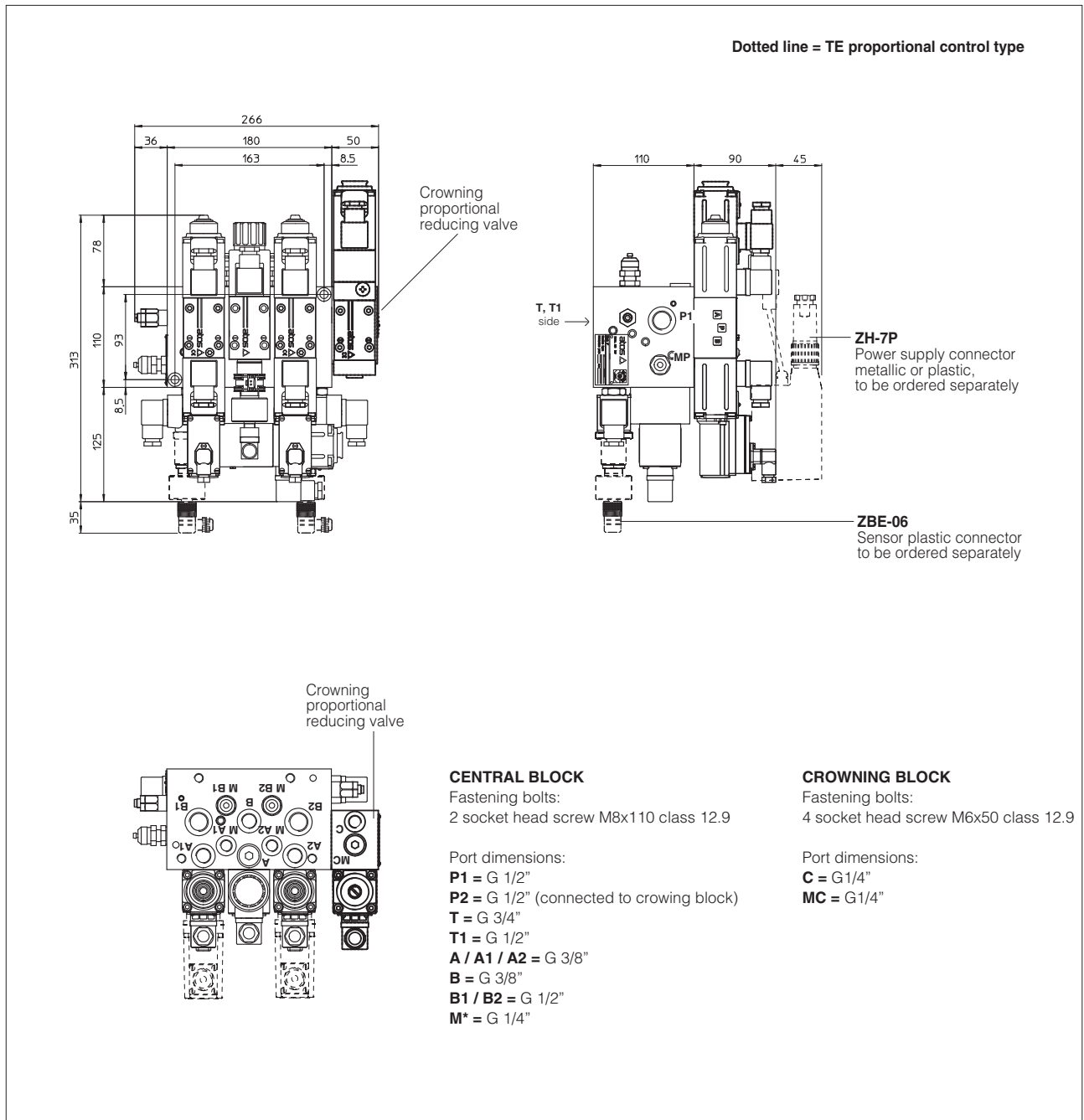
10 CROWNING OPTION FOR CENTRAL BLOCK DESIGN TYPE PB06

10.1 Certified hydraulic scheme with crowning option PB-06C (example with -HT* proportional control type)



Note: the PB06-N solution has the same hydraulic scheme but without monitor signal on valves ② and ④

10.2 Installation dimensions of PB06-* central block with crowning option (example with -T* proportional control type)



11 CROWNING OPTION FOR MODULAR BLOCK DESIGN TYPE PB1*

11.1 Installation dimensions of pressure control block with crowning option for PB1* solution

Size 16

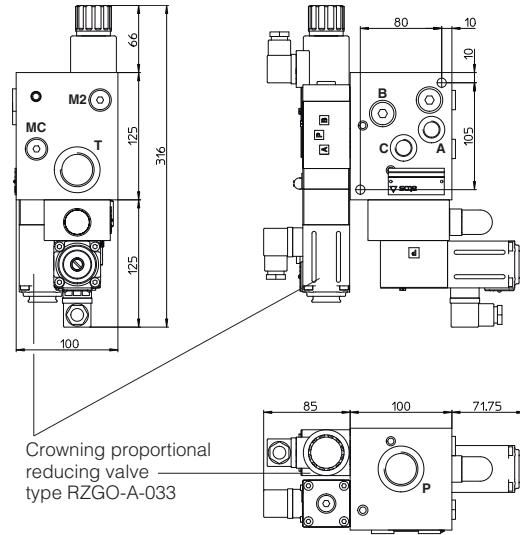
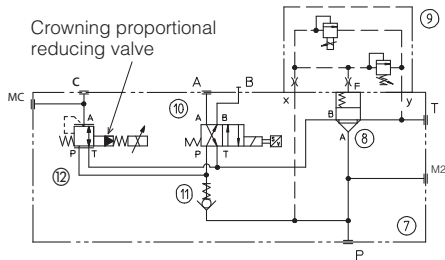
For solution PB1* the crowning proportional reducing valve ⑫ is installed on the pressure control block

Fastening bolts:
2 socket head screw M8x115 class12.9

Port dimensions:

- P** = G 1"
- T** = G 1"
- A** = G 3/8"
- B** = G 3/8"
- C** = G 3/8"
- M2** = G 1/4"
- MC** = G 1/4"

Block's hydraulic scheme



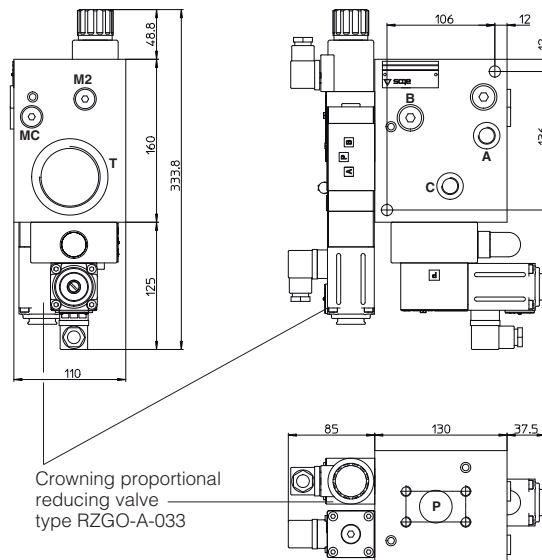
Size 25

For solution PB1* the crowning proportional reducing valve ⑫ is installed on the pressure control block

Fastening bolts:
2 socket head screw M8x115 class12.9

Port dimensions:

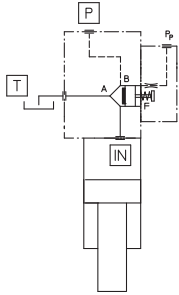
- P** = G 1 1/4" SAE 3000
- T** = G 2"
- A** = G 3/8"
- B** = G 3/8"
- C** = G 3/8"
- M2** = G 1/4"
- MC** = G 1/4"



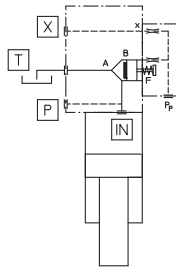
12 INSTALLATION DIMENSIONS OF PREFILLING BLOCKS TYPE PFB-*

Model code	Size	Dimensions							Bolts M	Seal	Port			
		A	B	D	E	F	I	L			T	X	P	Pp
PFB-25	25	70	28	Ø24	90	95	115	155	M10X90	OR 4137	G 1 1/4"	-	G3/8"	G1/4"
PFB-32	32	100	62	Ø32	130	125	125	185	M12X125	OR 149	G 1 1/2"	G3/8"	G3/8"	G1/4"
PFB-40	40	122	78	Ø50	165	150	150	250	M16X170	OR 4237	2" SAE 3000	G3/8"	G1/2"	G1/4"

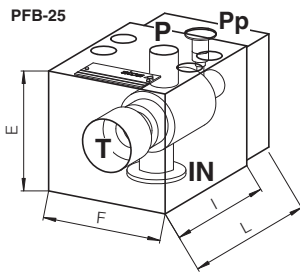
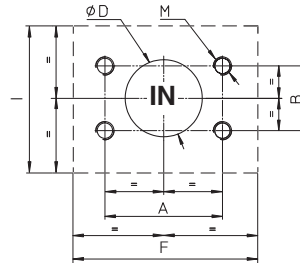
PFB-25
Hydraulic scheme



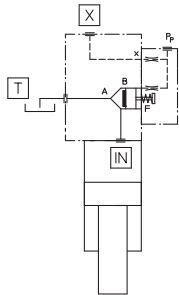
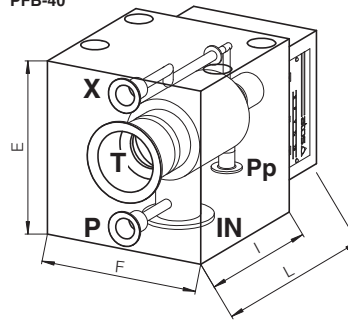
PFB-32, PFB-40
Hydraulic scheme



Cylinder surface



PFB-32
PFB-40



Model code	Size	Dimensions							Bolts M	Seal	Port		
		D	E	F	I	L	N	P			T	X	Pp
PFB-50	50	Ø50	160	180	160	270	45.5	17.5	M16X150	OR 4237	2 1/2" SAE 3000	G3/8"	G1/4"
PFB-63	63	Ø63	200	200	200	330	62.5	27.5	M16X190	OR 4275	3" SAE 3000	G3/8"	G3/8"

Cylinder surface

