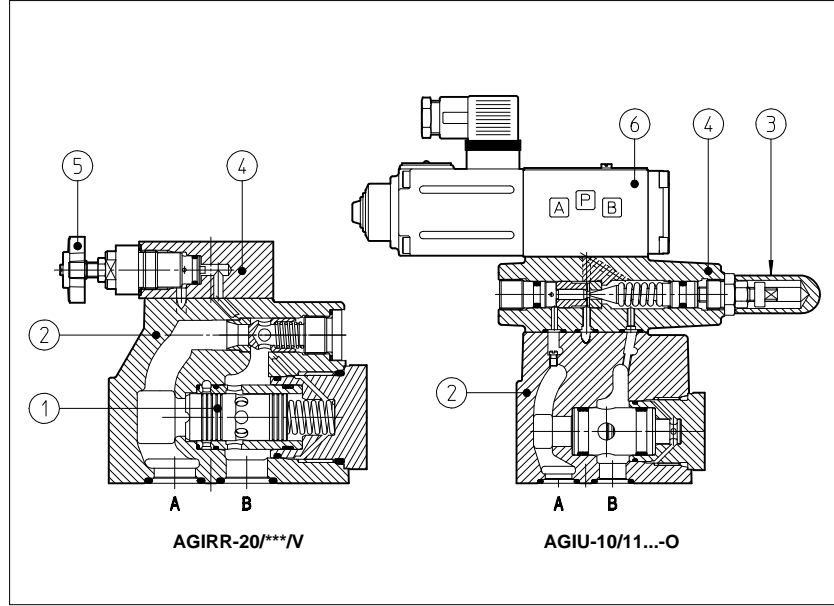


Pressure control valves type AGIR, AGIS, AGIU

two stage, subplate mounting ISO/Cetop sizes 06P, 08P, 10P



AGIR, AGIS and AGIU are double stage pressure control valves with balanced poppet designed to operate in oil hydraulic systems.
 AGIR: pressure reducing;
 AGIS: sequence;
 AGIU: unloading.
 In standard versions the piloting pressure of the poppet ① of the main stage ② is regulated by means of a grub screw protected by cap ③ in the cover ④.
 Optional versions with setting adjustment by handwheel ⑤ instead of the grub screw are available on request. Clockwise rotation increases pressure.
 Unloading valves AGIU can be equipped with a venting solenoid valve ⑥ (for normally open or normally closed valves).
 Another setting control can be made through the independent pilot port.
 Mounting surface: ISO/Cetop 06P, 08P and 10P.
 Max flow:
 for AGIR = 160, 300, 400 l/min
 for AGIS = 200, 400, 600 l/min
 for AGIU = 100, 200, 300 l/min.
 Pressure up to 350 bar.

1 MODEL CODE

AGIU	*	- 20 / 1	0 / 1	210	IV	- I	X	24DC	**	/*
Pressure control valves subplate mounting AGIR = pressure reducing AGIS = sequence AGIU = unloading			(1)	(1)		(1)	(1)	(1)		Synthetic fluids: WG = water-glycol PE = phosphate ester
Only for AGIR and AGIS: R = with check valve - = without check valve										Design number
Valve size 10 = ISO/Cetop 06P 20 = ISO/Cetop 08P 32 = ISO/Cetop 10P										Supply voltage, see section 7: 00 = solenoid valve without coils (only for OI solenoid)
Number of different setting pressure 1 = one setting pressure										X = without connector See section 6 for available connectors, to be ordered separately
0 = venting with de-energized solenoid 1 = venting with energized solenoid										Solenoid of pilot valve: -I = solenoid OI (DHI) for AC and DC supply -O = solenoid OO (DHO) for DC supply
					Options: IV = setting adjustment by handwheel instead of a grub screw protected by cap Only for AGIU: ID = internal drain - = standard unloading characteristics I5 and I6 = other unloading characteristics, see section 5					
					Pressure range: 100 = 6 - 100 bar; 210 = 7 - 210 bar; 350 = 8 - 350 bar					

(1) Only for AGIU with solenoid valve for venting

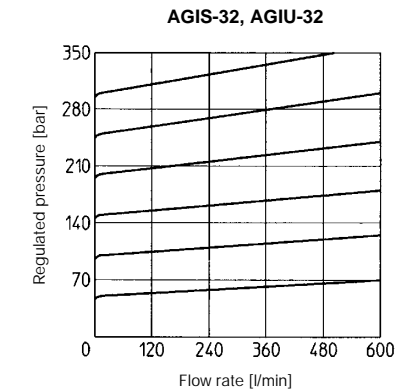
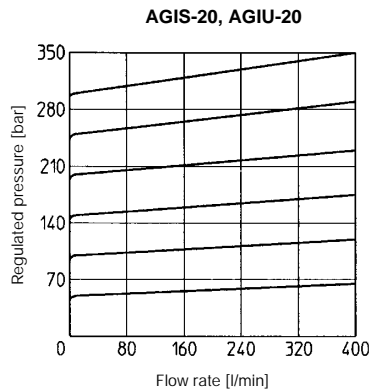
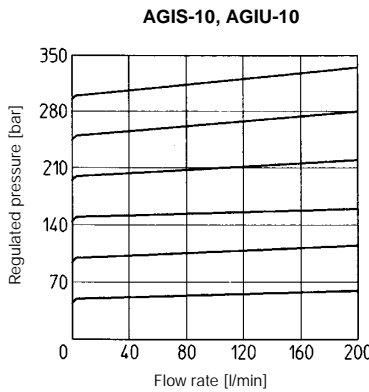
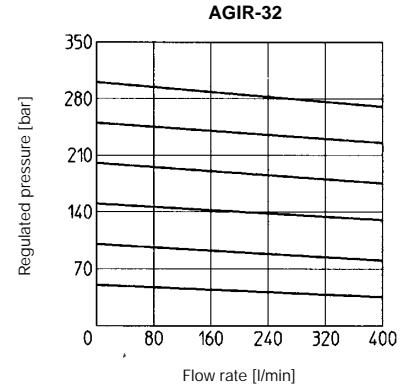
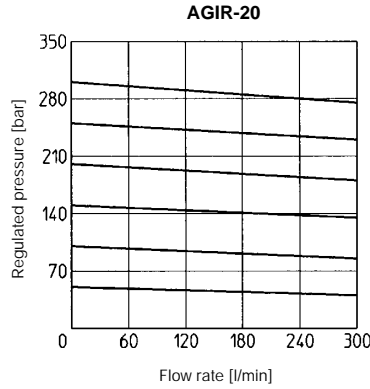
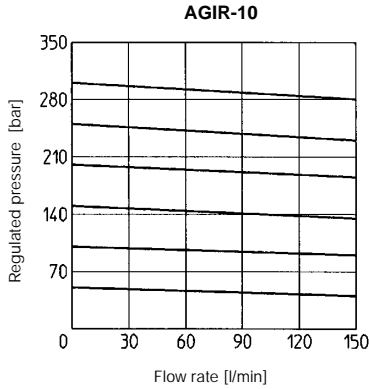
2 HYDRAULIC CHARACTERISTICS

	AGIR	AGIRR	AGIS	AGISR					
	AGIU	AGIU-*/10		AGIU-*/11					
Valve model	AGIR-10	AGIR-20	AGIR-32	AGIS-10	AGIS-20	AGIS-32	AGIU-10	AGIU-20	AGIU-32
Max flow [l/min]	160	300	400	200	400	600	100	200	300
Pressure range [bar]	6-100; 7-210; 8-350								

3 MAIN CHARACTERISTICS OF PRESSURE CONTROL VALVES TYPE AGIR, AGIS, AGIU

Assembly position / location	Any position
Subplate surface finishing	Roughness index $\sqrt{0.4}$, flatness ratio 0,01/100 (ISO 1101)
Ambient temperature	-20°C to + 70°C
Fluid	Hydraulic oil as per DIN 51524 . . . 535; for other fluids see section 1
Recommended viscosity	15 ÷ 100 mm ² /s at 40°C (ISO VG 15 ÷ 100)
Fluid contamination class	ISO 19/16, achieved with in line filters at 25 µm value and $\beta_{10} \geq 75$ (recommended)
Fluid temperature	T ≤ 80°C, if T ≥ 60°C select /PE seals

4 REGULATED PRESSURE VERSUS FLOW DIAGRAMS



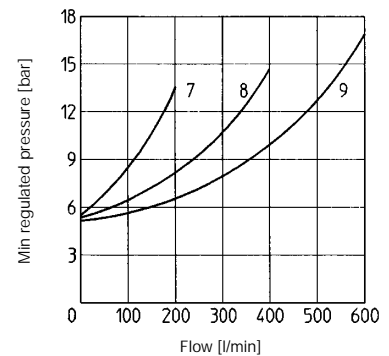
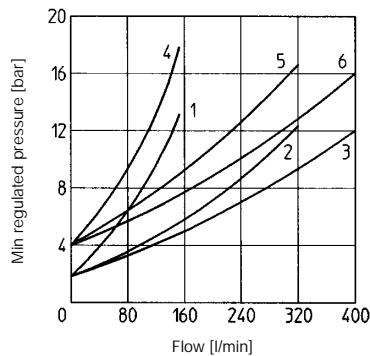
Note: for AGIU-10, the max flow rate is 100 l/min

Note: for AGIU-20, the max flow rate is 200 l/min

Note: for AGIU-32, the max flow rate is 300 l/min

5 OPERATING DIAGRAM

- 1 = AGIR-10 A → B
- 2 = AGIR-20 A → B
- 3 = AGIR-32 A → B
- 4 = AGIR-10 B → A
- 5 = AGIR-20 B → A
- 6 = AGIR-32 B → A



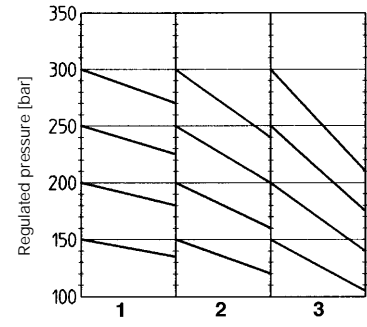
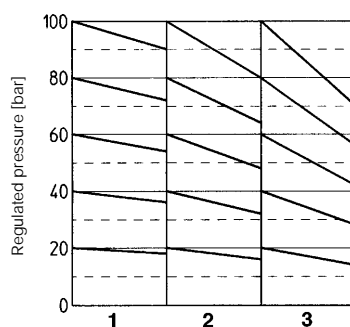
- 7 = AGIS-10
- 8 = AGIS-20
- 9 = AGIS-32

Opening/closing diagram for AGIU

- 1 = AGIU-*/*/... (standard)
- 2 = AGIU-*/*/.../5
- 3 = AGIU-*/*/.../6

NOTES

- 1) Short pipes with low resistance must be used between the unloading valve and the accumulator;
- 2) When the resistance is high, the hydraulic pilot signal must be taken as closer as possible to the accumulator;
- 3) With pump high flow and valve small differential pressure of intervention it is unadvisable to use the version with external drain;
- 4) When using the BA-*25 subplates:
 - a) in applications with working frequencies > 10 Hz use subplates type BA-*25/4 (spring with 4 bar of cracking pressure);
 - b) in applications with working frequencies < 10 Hz use subplates type BA-*25/2 (spring with 2 bar of cracking pressure);



6 ELECTRIC CONNECTORS ACCORDING TO DIN 43650 FOR AGIU WITH SOLENOID VALVE

The connectors must be ordered separately

Code of connector	Function
SP-666	Connector IP-65, suitable for direct connection to electric supply source
SP-667	As SP-666 connector IP-65 but with built-in signal led, suitable for direct connection to electric supply source
SP-669	With built-in rectifier bridge for supplying DC coils by alternating current (AC). Only for versions -OX

For other available connectors, see tab. E010 and K500.

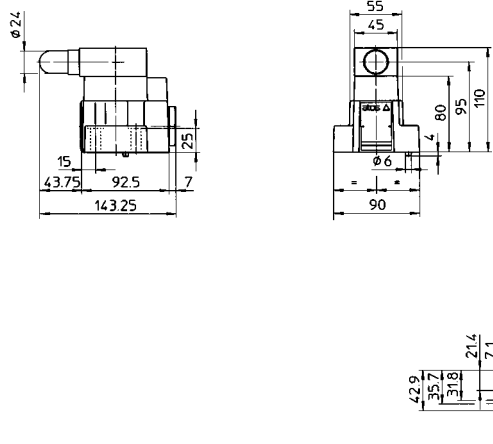
7 ELECTRIC FEATURES FOR AGIU WITH SOLENOID VALVE

Type of solenoid	External supply nominal voltage (1) (2)		Type of connector	Power consumption (4)	Code of spare coil (6)	Colour of coil label
OI	DIRECT CURRENT	6 DC	SP-666 or SP-667	33 W	SP-COU-6DC /80 SP-COU-12DC /80 SP-COU-24DC /80 SP-COU-48DC /80	brown green red silver
		12 DC				
		24 DC				
		48 DC				
	ALTERNATE CURRENT	110/50 AC (3) 120/60 AC 230/50 AC (3) 230/60 AC	SP-666 or SP-667	60 VA (5)	SP-COI-110/50/60AC /80 SP-COI-120/60AC /80 SP-COI-230/50/60AC /80 SP-COI-230/60AC /80	yellow white light blue silver
OO	DIRECT CURRENT	12 DC	SP-666 or SP-667	32 W	-	-
		24 DC		40 W	-	-
		110 DC			-	-
		220 DC			-	-
	ALTERNATE CURRENT	110/50 AC 120/60 AC 230/50 AC 230/60 AC	SP-669	40 VA 35 VA 40 VA 35 VA	- - - -	- - - -

- (1) Tolerance on the nominal voltage is $\pm 10\%$.
- (2) For other supply voltages available on request see technical table E010.
- (3) Coil can be supplied also with 60 Hz of voltage frequency: in this case the performances are reduced by $10 \div 15\%$ and the power consumption is 55 VA.
- (4) Average values based on tests performed at nominal hydraulic condition and ambient/coil temperature of 20°C.
- (5) When solenoid is energized, the inrush current is approx 3 times the holding current. Inrush current values correspond to a power consumption of about 150 VA.
- (6) Protection class H; Duty cycle: 100%. Connector protection degree: IP 65.

8 DIMENSIONS [mm]

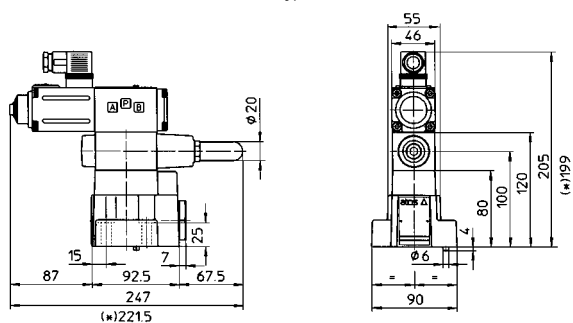
AGIR-10



Mass 4,3 Kg

AGIS-10, AGIU-10

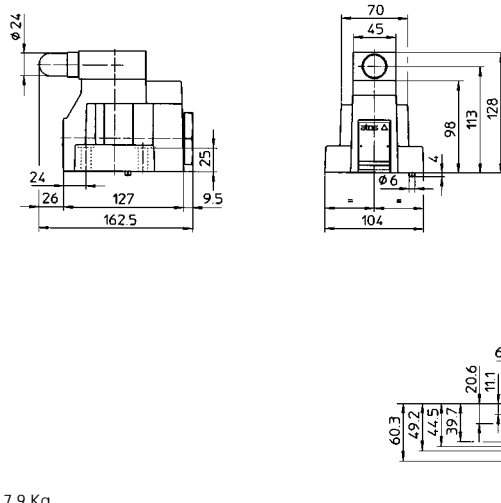
The drawing shows AGIU with solenoid valve type DHO
 (*) Dimensions for AGIU with solenoid valve type DHI



ISO/Cetop 06P:
 fastening bolts: 4 socket head screws M10x45
 Seals: 2 OR 109, 2 OR 3068
 Ports A, B: $\phi = 14$ mm
 Ports X, Y: $\phi = 5$ mm

Mass 4,3 (6,2) Kg
 Between brackets with solenoid valve

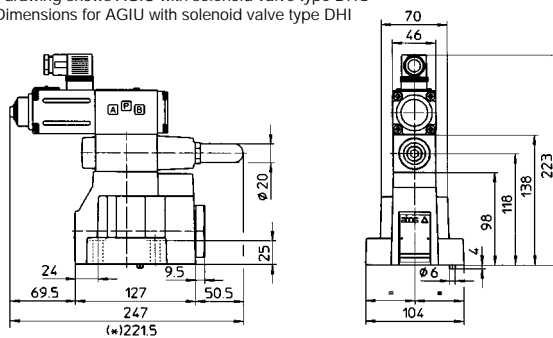
AGIR-20



Mass 7,9 Kg

AGIS-20, AGIU-20

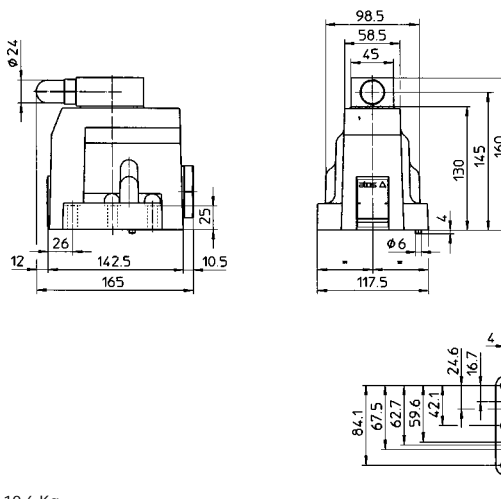
The drawing shows AGIU with solenoid valve type DHO
 (*) Dimensions for AGIU with solenoid valve type DHI



ISO/Cetop 08P:
 fastening bolts: 4 socket head screws M10x45
 Seals: 2 OR 109, 2 OR 4100
 Ports A, B: $\phi = 22$ mm
 Ports X, Y: $\phi = 5$ mm

Mass 7,9 (9,8) Kg
 Between brackets with solenoid valve

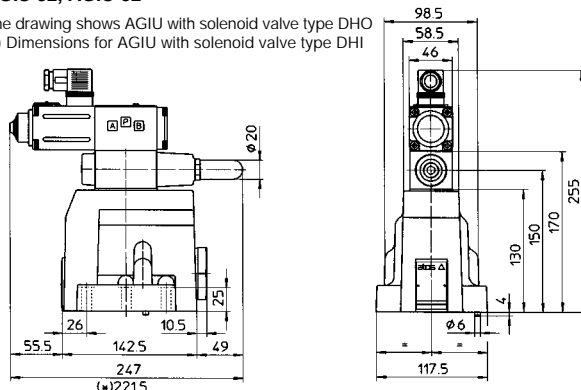
AGIR-32



Mass 10,6 Kg

AGIS-32, AGIU-32

The drawing shows AGIU with solenoid valve type DHO
 (*) Dimensions for AGIU with solenoid valve type DHI



ISO/Cetop 10P:
 fastening bolts: 6 socket head screws M10x45
 Seals: 2 OR 109, 2 OR 4131
 Ports A, B: $\phi = 28$ mm
 Ports X, Y: $\phi = 5$ mm

Mass 10,6 (12,5) Kg
 Between brackets with solenoid valve

Overall dimensions refer to valves with connectors type SP-666

9 MOUNTING SUBPLATES

Valves	Subplate model	Port location	BPS ports				ϕ Counterbore [mm]				Mass [Kg]
			A	B	X-Y	OUT	A	B	X-Y	OUT	
AGI*-10	BA-305	Ports A, B, Y underneath;	1/2"	1/2"	1/4"	-	30	30	21,5	-	1
AGI*-20	BA-505		1"	1"	1/4"	-	46	46	21,5	-	2
AGI*-32	BA-705		1 1/2"	1 1/2"	1/4"	-	63,5	63,5	21,5	-	7,5
AGIU-10	BA-325 (with incorporate check valve)	Ports A, B, Y underneath;	1/2"	3/4"	1/4"	1/2"	30	36,5	21,5	30	5
AGIU-20	BA-425 (with incorporate check valve)		1"	1"	1/4"	1	46	46	21,5	46	6,5
AGIU-32	BA-625 (with incorporate check valve)		1 1/2"	1 1/2"	1/4"	1 1/2"	63,5	63,5	21,5	63,5	13

The subplates are supplied with fastening bolts. For further details see table K280