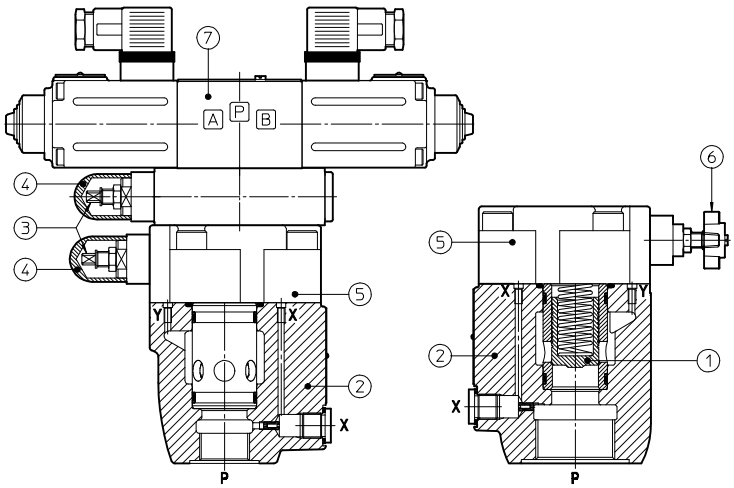
Atos spa
21018 Sesto Calende, Italy - Fax 0331 920005

Pressure relief valves type ARAM

two stage, in line mounting - 3/4" and 1¹/₄ BSP threaded ports



ARAM-20/20...-O **ARAM-32..../V**

ARAM are double stage pressure relief valve with balanced poppet and BSP threaded ports.

In standard versions the piloting pressure of the poppet ① of the main stage ② is regulated by means of a grub screw ③ protected by cap ④ in the cover ⑤. Optional versions with setting adjustment by handwheel ⑥ instead of the grub screw are available on request. Clockwise rotation increases the pressure.

These valves can be equipped with a venting solenoid valve ⑦ (for normally open or normally closed valves). Another setting control can be made through the independent pilot port.

Threaded ports: 3/4" BSP, 1¹/₄ BSP.
Max flow: 350, 500 l/min respectively.
Pressure up to 350 bar.

Valves designed to operate in hydraulic systems with hydraulic mineral oil or synthetic fluid having similar lubricating characteristics

1 MODEL CODE

ARAM	- 20	/ 2	0	/210	/100/100	/V	-I	X	24DC	**	*
		(1)	(1)		(1)		(1)	(1)	(1)		

ARAM = pressure relief valve threated port connections

Size:
20 = port P 3/4" BSP
32 = port P 1¹/₄" BSP

Number of the different setting pressure values:
1 = one setting pressure
2 = two setting pressure
3 = three setting pressure

0 = venting with de-energized solenoid
1 = venting with energized solenoid
2 = without venting

Pressure range:
100 = 6 - 100 bar; **210** = 7 - 210 bar; **350** = 8 - 350 bar

Pressure range of second/third setting:
100 = 6 - 100 bar; **210** = 7 - 210 bar; **350** = 8 - 350 bar

Options:
/V = setting adjustment by handwheel instead of a grub screw protected by cap

Solenoid of pilot valve:
-I = solenoid OI (DHI) for AC and DC supply
-O = solenoid OO (DHO) for DC supply

X = without connector
See section 6 for available connectors, to be ordered separately

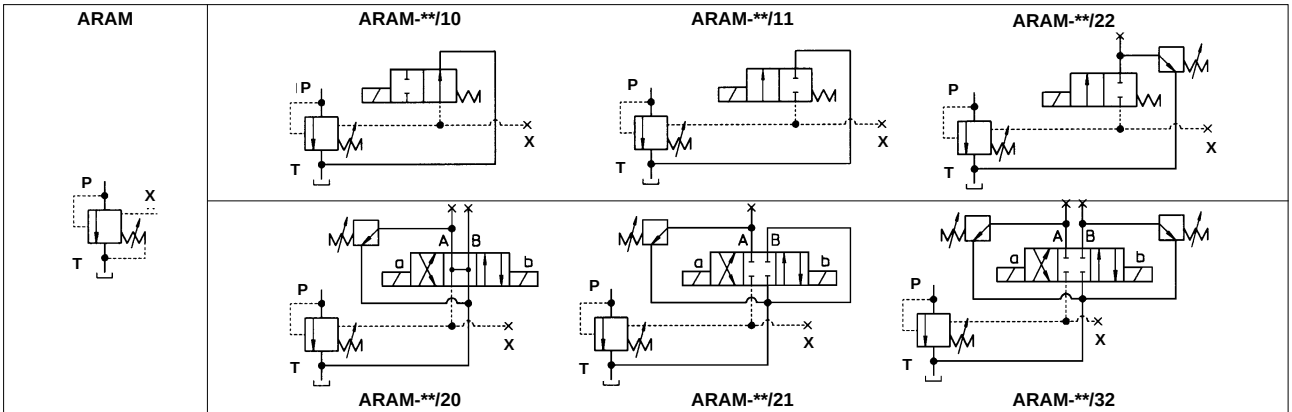
Supply voltage, see section 7 :
00 = solenoid valve without coils (only for OI solenoid)

Design number

Syntethic fluids:
/WG = water-glycol
/PE = phosphate ester

(1) Only for ARAM with solenoid valve for venting and/or for the selection of the setting pressure

2 HYDRAULIC CHARACTERISTICS



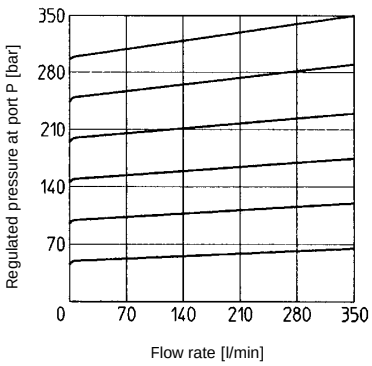
Valve model		ARAM-20	ARAM-32
Max flow	[l/min]	350	500
Pressure range	[bar]	6-100; 7-210; 8-350	

3 MAIN CHARACTERISTICS OF PRESSURE CONTROL VALVES TYPE ARAM

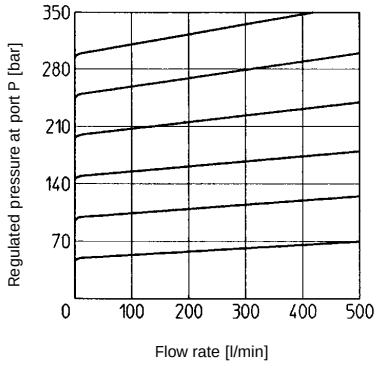
Assembly position / location	Any position
Ambient temperature	-20°C to + 70°C
Fluid	Hydraulic oil as per DIN 51524 . . . 535; for other fluids see section [1]
Recommended viscosity	15 ÷ 100 mm²/s at 40°C (ISO VG 15 ÷100)
Fluid contamination class	ISO 19/16, achieved with in line filters at 25 µm value and $\beta_{25} \geq 75$ (recommended)
Fluid temperature	T ≤ 80°C, if T ≥ 60°C select /PE seals

4 REGULATED PRESSURE VERSUS FLOW DIAGRAMS based on fluid viscosity of 25 mm²/s at 40° C

ARAM-20

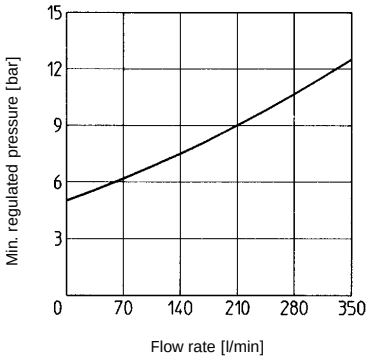


ARAM-32

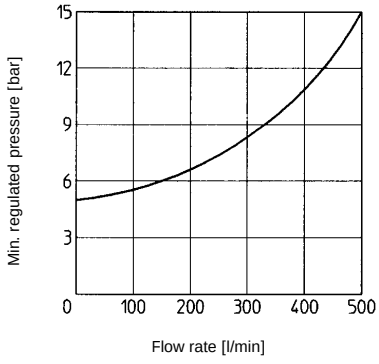


5 MINIMUM PRESSURE VERSUS FLOW DIAGRAMS based on fluid viscosity of 25 mm²/s at 40° C

ARAM-20



ARAM-32



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

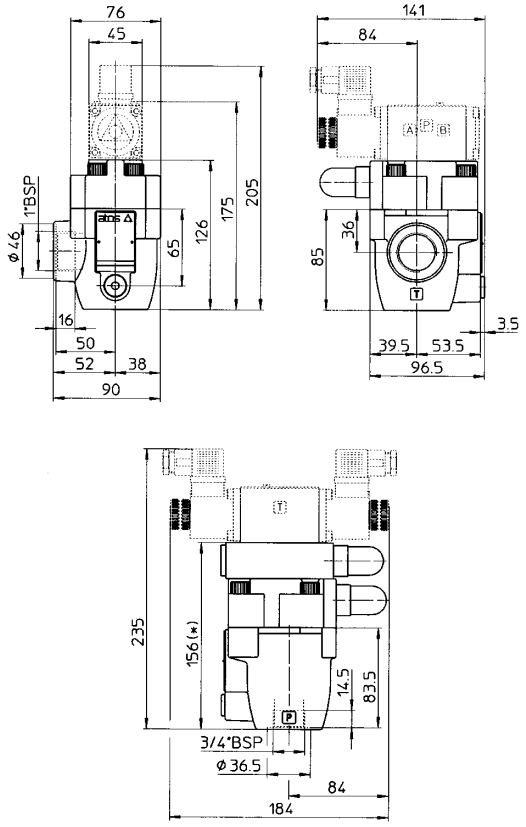
Type of solenoid	External supply nominal voltage (1) (2)		Type of connector	Power consumption (4)	Code of spare coil (6)	Colour of coil label
OI	DIRECT CURRENT	6 DC 12 DC 24 DC 48 DC	SP-666 or SP-667	33 W	SP-COU-6DC /80 SP-COU-12DC /80 SP-COU-24DC /80 SP-COU-48DC /80	brown green red silver
	ALTERNATE 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 24 DC	SP-666 or SP-667	32 W	– –	– –
		110 DC 220 DC		40 W	– –	– –
	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 ±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 ÷ 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]

ARAM-20

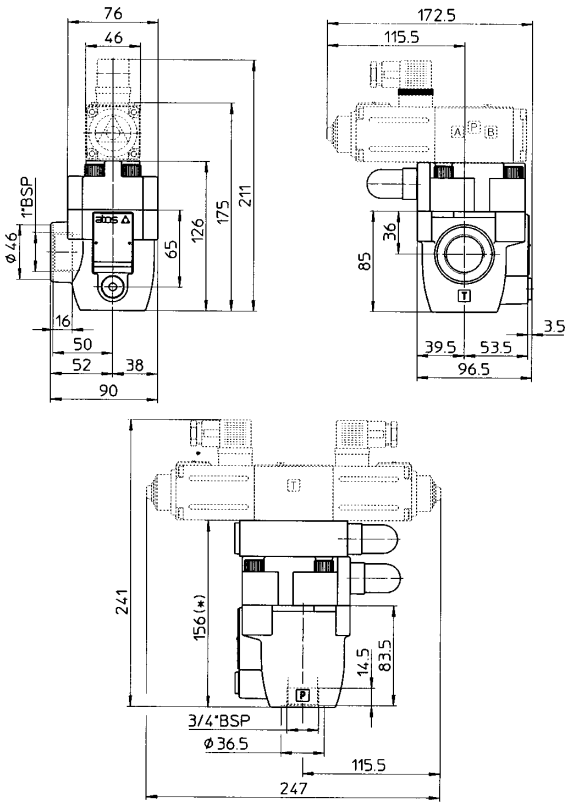
Dotted line for ARAM with solenoid valve type DHI



(*) Only for versions /20, /21, /22, /32

Mass:
without solenoid valve: 3,9 Kg
with single solenoid valve: 5,4 Kg
with double solenoid valve: 5,7 Kg

Dotted line for ARAM with solenoid valve type DHO

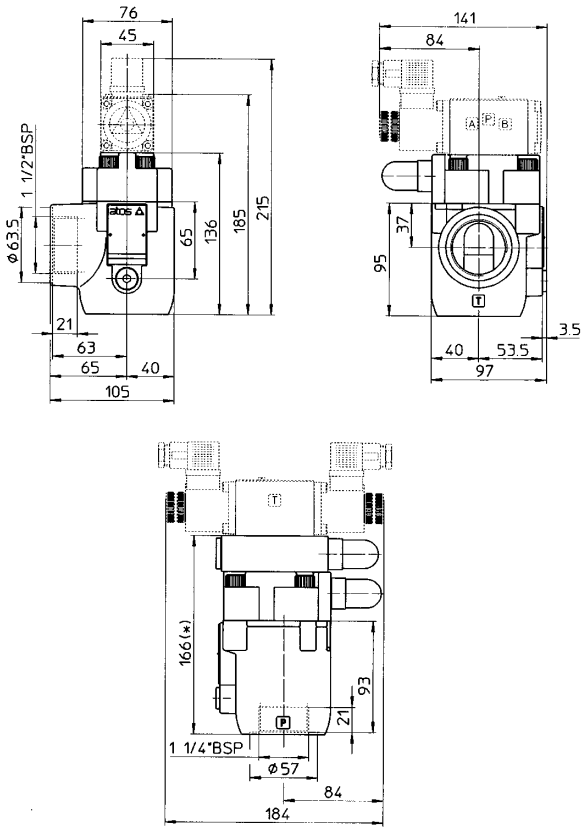


(*) Only for versions /20, /21, /22, /32

Mass:
without solenoid valve: 3,9 Kg
with single solenoid valve: 5,8 Kg
with double solenoid valve: 6,5 Kg

ARAM-32

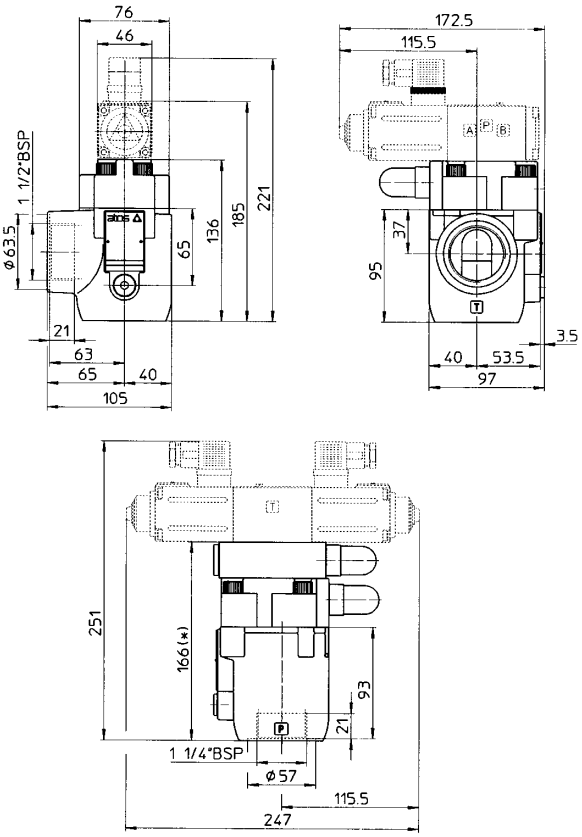
Dotted line for ARAM with solenoid valve type DHI



(*) Only for versions /20, /21, /22, /32

Mass:
without solenoid valve: 4,7 Kg
with single solenoid valve: 6,2 Kg
with double solenoid valve: 6,5 Kg

Dotted line for ARAM with solenoid valve type DHO



(*) Only for versions /20, /21, /22, /32

Mass:
without solenoid valve: 4,7 Kg
with single solenoid valve: 6,6 Kg
with double solenoid valve: 7,3 Kg

Overall dimensions refer to valves with connectors type SP-666