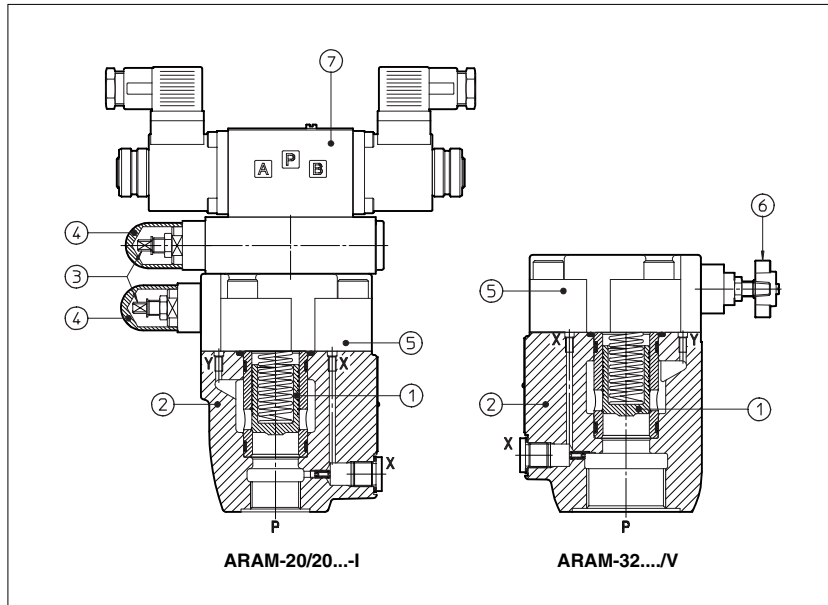


Pressure relief valves type ARAM

two stage, in line mounting - G 3/4" and G 1 1/4" threaded ports



ARAM are double stage pressure relief valve with balanced poppet and GAS 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 means of a 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.

Also available in safety option with sealed regulation:

- /PED conforming to PED Directive (97/23/CE)

Set pressure at:

- ARAM-20 = 25 l/min
- ARAM-32 = 25 l/min

For this version the P, Q limits are shown in section 8.

ARAM can be equipped with a venting solenoid valve (7) (for venting or for different pressure setting). Another setting control can be made through the independent pilot port.

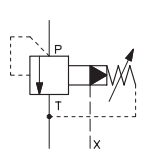
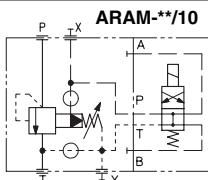
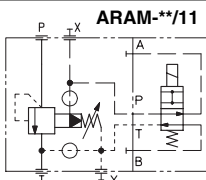
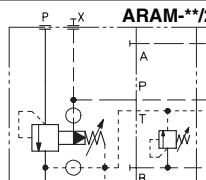
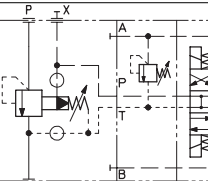
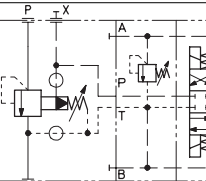
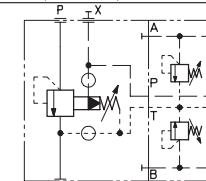
Threaded ports: G 3/4", G 1 1/4".

Max flow: 350, 500 l/min respectively.
 Pressure up to 350 bar.

1 MODEL CODE

ARAM	-	20	/	2	0	/210/100/100	/V	/*	-I	X	24DC	**	/*
ARAM = pressure relief valve threaded port connections				(1)	(1)	(1)			(1)	(1)	(1)		Synthetic fluids: WG = water-glycol PE = phosphate ester
Size: 20 = port P - G 3/4" 32 = port P - G 1 1/4"													Design number
Number of the different setting pressure values (not for /PED): 1 = one setting pressure 2 = two setting pressure 3 = three setting pressure													Supply voltage, see section 6: 00 = solenoid valve without coils (only for OI solenoid)
0 = venting with de-energized solenoid 1 = venting with energized solenoid 2 = without venting													X = without connector See section 5 for available connectors, to be ordered separately
Setting: see section 2 for available setting													Solenoid of pilot valve (not for /PED): -I = solenoid OI (DHI) for AC and DC supply
Pressure range of second/third setting (not for /PED): 50 = 4÷50 bar; 100 = 6÷100 bar; 210 = 7÷210 bar; 350 = 8÷350 bar													Only for /PED option p = required set pressure
(1) Only for ARAM with solenoid valve for venting and/or for the selection of the setting pressure													Options, see section 4 /E /PED /V /WP /Y

2 HYDRAULIC CHARACTERISTICS

			
			
Valve model	ARAM-20		ARAM-32
Setting	standard	50; 100; 210; 350	
	/PED		
Pressure range	standard	4÷50; 6÷100; 7÷210; 8÷350	
	/PED	10÷50; 10÷100; 10÷210; 10÷350	
Max flow	standard	350	500
	/PED		

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 11
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 β _{0.5} ≥ 75 (recommended)
Fluid temperature	-20°C +60°C (standard and /WG seals) -20°C +80°C (/PE seals)

3.1 Coils characteristics

Insulation class	H
Connector protection degree	IP 65
Relative duty factor	100%
Supply voltage and frequency	See electric feature 7
Supply voltage tolerance	± 10%

4 OPTIONS

- /E** = external pilot
- /PED** = conforming to Directive 97/23/CE
- /V** = regulating handwheel instead of grub screw protected by cap (for handwheel features, see table K150)
- /WP** = prolonged manual override protected by rubber cap (only for ARAM with pilot solenoid valve)
- /Y** = external drain (only for ARAM with pilot solenoid valve)

5 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

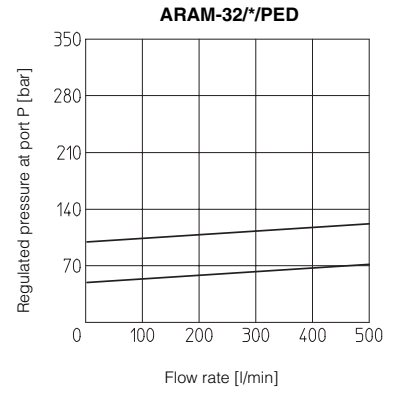
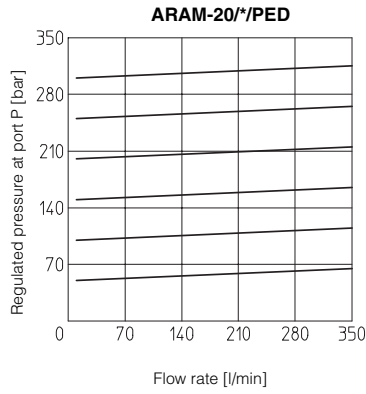
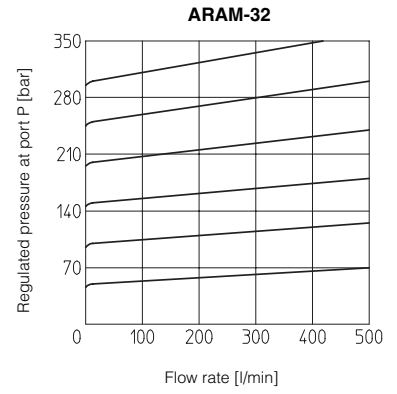
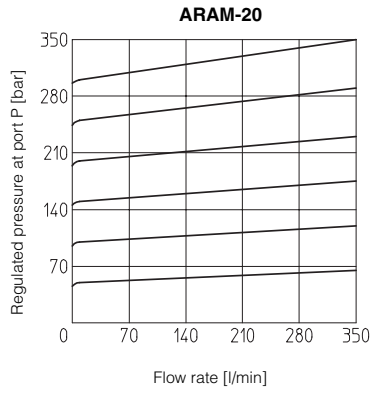
For other available connectors see tab. E010 and K500.

6 ELECTRIC FEATURES FOR ARAM WITH SOLENOID VALVE

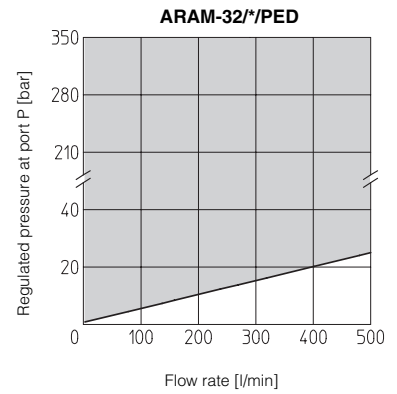
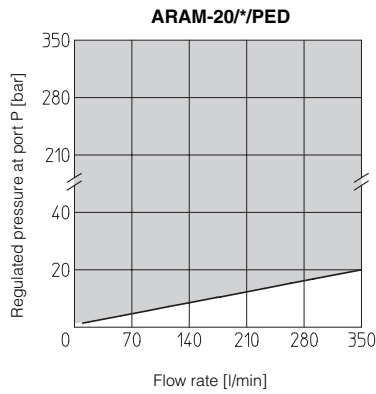
Type of solenoid	External supply nominal voltage ± 10% (1)		Type of connector	Power consumption (34)	Code of spare coil	Colour of coil label
OI	DIRECT CURRENT	6 DC	SP-666 or SP-667	33 W	SP-COU-6DC /80 SP-COU-12DC /80 SP-COU-24DC /80 SP-COU-48DC /80	brown green red silver
		12 DC				
		24 DC				
		48 DC				
	ALTERNATE CURRENT	110/50 AC (2)	SP-666 or SP-667	60 VA (4)	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
		120/60 AC				
		230/50 AC (2)				
		230/60 AC				

- (1) For other supply voltages available on request see technical table E010.
- (2) 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.
- (3) Average values based on tests performed at nominal hydraulic condition and ambient/coil temperature of 20°C.
- (4) 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.

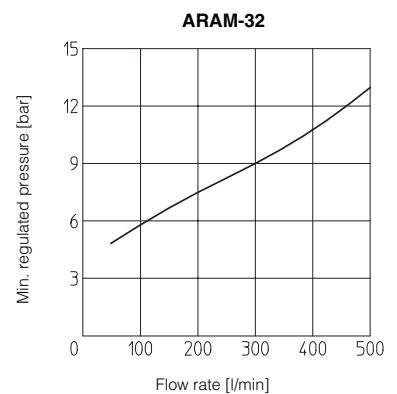
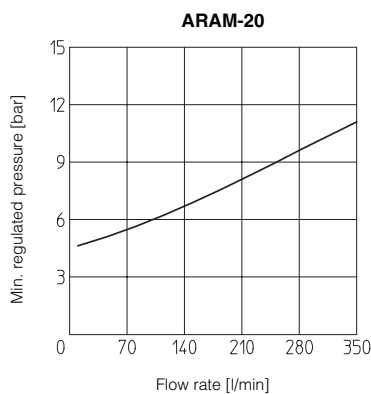
7 REGULATED PRESSURE VERSUS FLOW DIAGRAMS based on mineral oil ISO VG 46 at 50°C



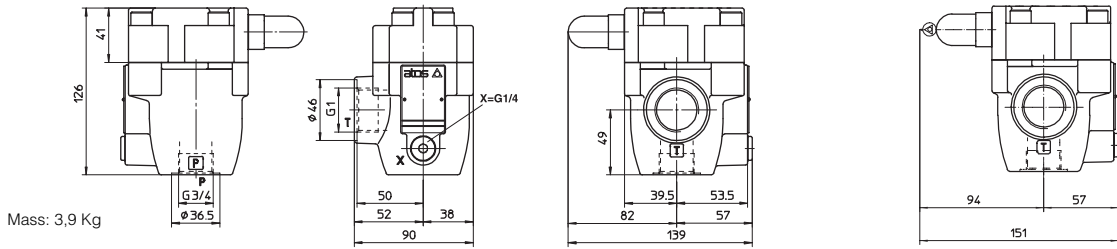
8 PERMISSIBLE RANGE (shared area) based on mineral oil ISO VG 46 at 50°C



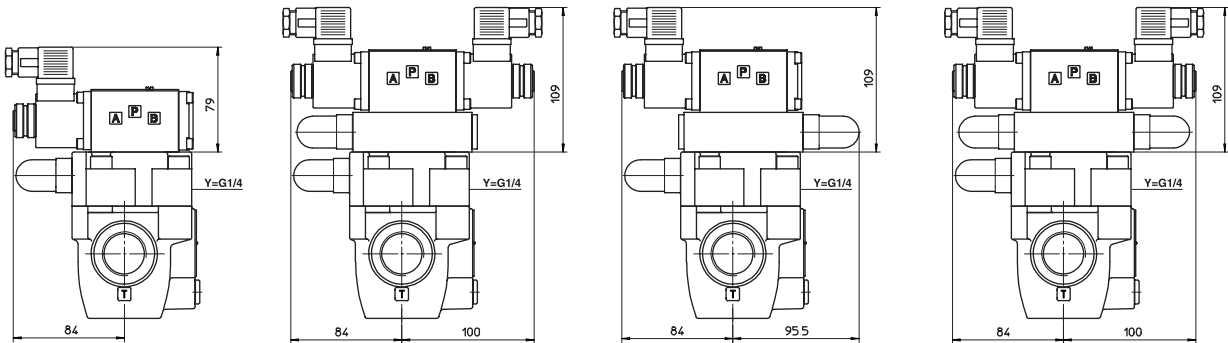
9 MINIMUM PRESSURE VERSUS FLOW DIAGRAMS based on mineral oil ISO VG 46 at 50°C



ARAM-20



X = port connection for external pilot
Y = port connection for external drain



ARAM-20/10/-IX**
ARAM-20/11/-IX**

Mass: 5,4 Kg

ARAM-20/20/-IX**
ARAM-20/21/-IX**

Mass: 7,1 Kg

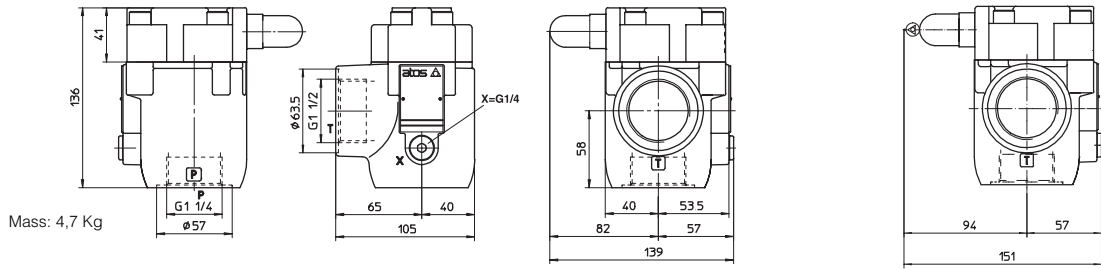
ARAM-20/22/-IX**

Mass: 6,8 Kg

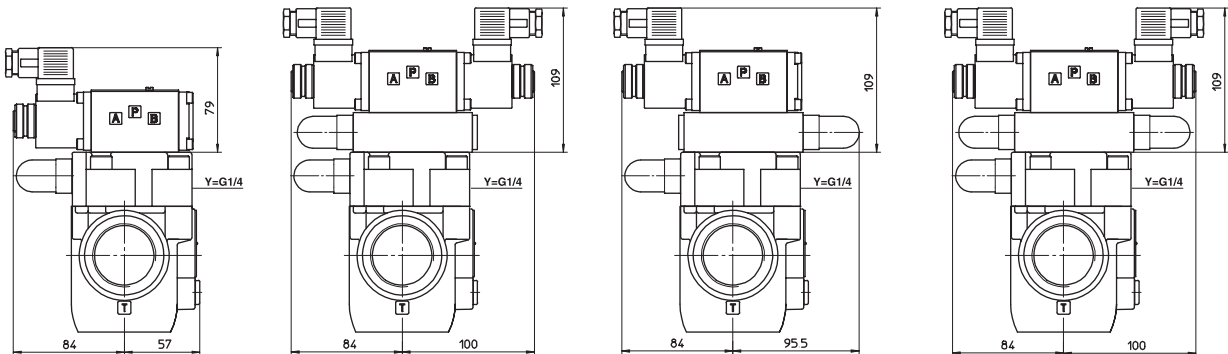
ARAM-20/32/-IX**

Mass: 7,4 Kg

ARAM-32



X = port connection for external pilot
Y = port connection for external drain



ARAM-32/10/-IX**
ARAM-32/11/-IX**

Mass: 6,2 Kg

ARAM-32/20/-IX**
ARAM-32/21/-IX**

Mass: 7,9 Kg

ARAM-32/22/-IX**

Mass: 7,6 Kg

ARAM-32/32/-IX**

Mass: 8,2 Kg