

AR Series

AR Axial Piston Pump

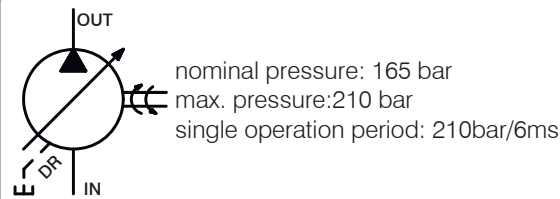


AR series axial piston pump

Description

1. Small and light design, space saving.
2. Special alloy material, power saving, low noise, long life.
3. Easy to assemble, exquisite appearance and light weight.
4. Application for NC lathe, MC machine, bending machine, punch hydraulic press, high efficiency machine.

Symbol



Quick reference data chart

Size	Model	Displacement		Pump Delivery (7bar) 100 PSI				Pressure Adj Range		Speed		Weight
		cm ³ /rev	In ³ /rev	1500 RPM		1800 RPM		B bar(Mpa)	C bar (Mpa)	Max. RPM	Min. RPM	KG (LB)
				LPM	U.S. GPM	LPM	U.S. GPM					
1	AR8	8.0	0.48	12	3.17	14.4	3.8	12~70 (1.2~7)	12~210 (1.2~21)	1800	500	9(19.84)
2	AR10	10.0	0.61	15	3.9	18	4.76					
3	AR12	12.0	0.73	18	4.76	21.6	5.73					
4	AR16	15.8	0.96	23.7	6.26	28.44	7.51					
5	AR22	22.2	1.35	33.3	8.8	39.96	10.56					

Technical Data

1. Installation outlet port top, the pipe have to less than 2 bar.
2. The use of max. pressure override 6 minut, hydraulic oil clean that see General Installation Information.
3. WINMAN offer tandem pumps, and other pumps connection, the connection type use Metric version and SAE version dimensions.

AR Series

Type code for standard program

	16	F	R	01	C	S	K	10		-		
1	2	3	4	5	6	7	8	9	10		11	12
Series	Size and displacement	Mounting	Rotation	Control device	Pressure adjusting	Port position	Shaft type	Threads code	Voltage		Seals	Design No.

Series

1	Axial piston pump	nominal pressure 165bar	max. pressure 210 bar	single operation period 210 bar /6ms	AR
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Size and displacement

2	Code	8	10	12	16	22		
	Size	1	2	3	4	5		
	Displacement	cm ³ /rev	8.0	10.0	12.0	15.8	22.2	
		ln ³ /rev	0.48	0.61	0.73	0.96	1.35	ln ³ = 16.378 cm ³

Mounting

3	Flange mtg	F
	Foot mtg	L

Rotation

4	clockwise	R
	counter clockwise	L

Control type

5	Standart pressure control	01	
	Remote pressure control	G	
	Load-sensing control	Pressure	HL <input type="checkbox"/>
		A Low : 7 KG	
		B Mid : 14 KG	
		C High : 21 KG	
	2-stage pressure & Flow control	C	
	2-stage pressure & Flow control + Remote	CG	
	2-stage pressure & Flow control + Low tension unloading	CR	
	Low tension unloading + Pressure control + Remote	D	
	Low tension unloading + Pressure control + Remote	DG	
	Electric 2-stage pressure control	E	
	Electric 2-stage pressure control + Remote	EG	
	Electric 2-stage pressure control & Flow control	F	
	Electric 2-stage pressure control & Flow control + Remote	FG	
	Remote pressure compensator with NG6 interface	GM	
Remote pressure compensator + Proportional pressure valve	GJ		

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Type code for standard program

	16	F	R	01	C	S	K	10		-		
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Series Size and Mounting Rotation Control Pressure Port Shaft Threads Voltage Seals Design No.
displacement device adjusting position type code

5	Remote pressure compensator + Electrical unloading	GR
	Remote pressure compensator + 2-stage pressure control	GB
	Remote pressure compensator + Electrical unloading 2-stage pressure control	GC
	None pressure compensator (fixed displacement) (pressure protection required)	LN
	Electrical 2-stage flow compensator	LS
	Fixed displacement 2-stage flow compensator (pressure protection required)	LC

Pressure adjusting

6	2~70bar	1.2~7 Mpa	B
	12~210 bar	1.2~21Mpa	C

Port position

7	None : Axial Port	<input type="checkbox"/>
	Side Port	S
	Outlet flange type	F

Shaft type

8	Key	K
	Splind shaft 13T 16 / 32 DP	G
	Splind shaft 9T 16 / 32 DP	T

Threads type

9	PT (RC)	10	*
	BSPG (G)	40	
	NPT	50	

Voltage

10	None	Y	*
	AC100V (50/60HZ)	A	
	AC110V (60HZ)	B	
	AC200V (50/60HZ)	C	
	AC220V (60HZ)	D	
	DC 12V	E	
	DC 24V	F	

Seals

11	NBR	<input type="checkbox"/>	*
	VITON	V	

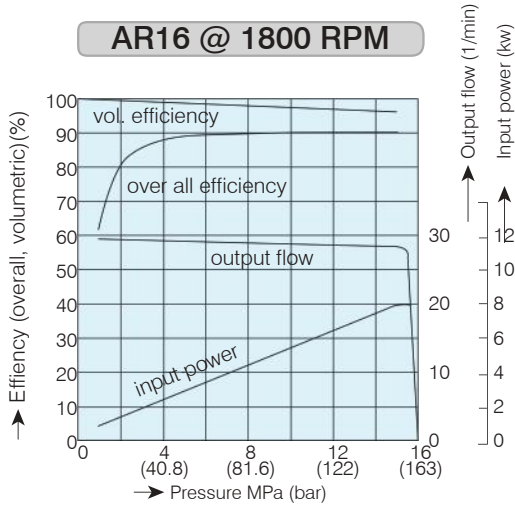
AR Series

Diagrams

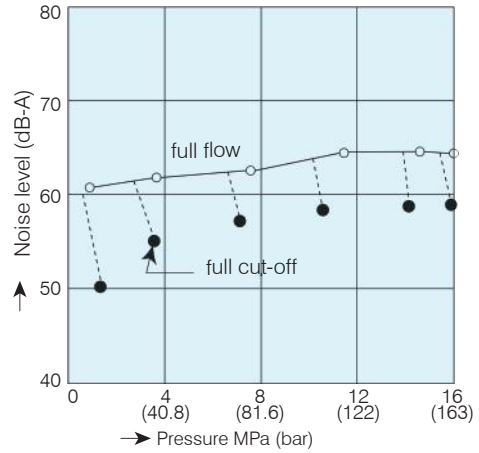
Speed: 1800 r/min Hydraulic oil: ISO VG32 Oil temperature: 50°C

AR16 type

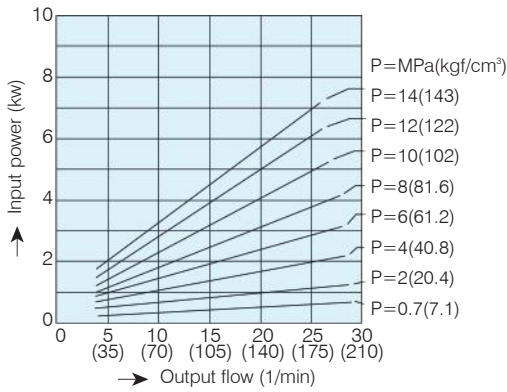
AR16 @ 1800 RPM



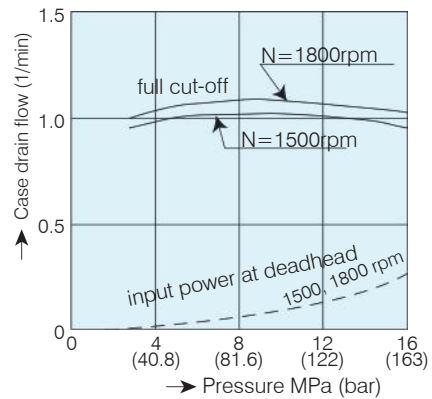
Noise level



Input power



Case drain flows



Test condition

The noise of the single pump is according to the standard of DIN45 635, the rule of land 26 at low echo measure laboratory, measuring that the distance of microphone is 1m an 1500rpm.

AR Series

Diagrams

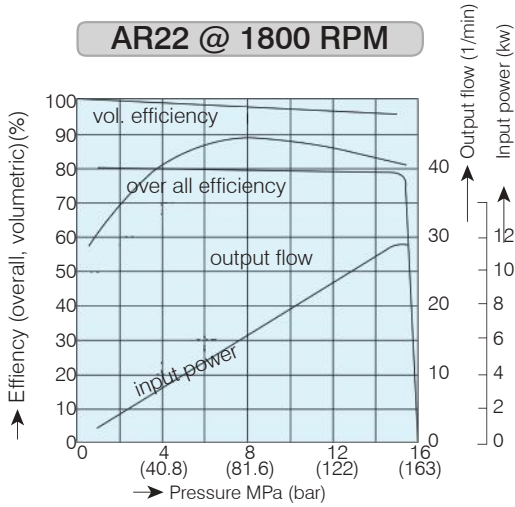
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Hydraulic oil: ISO VG32

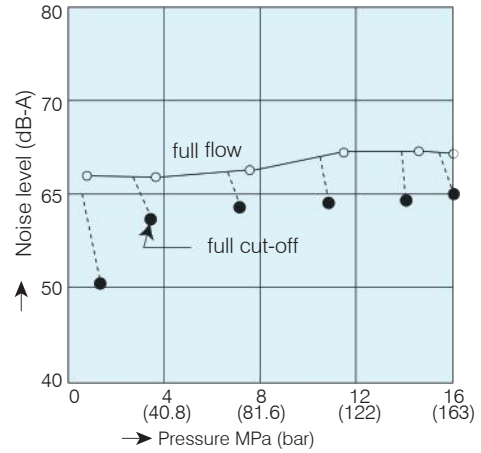
Oil temperature: 50°C

AR22 type

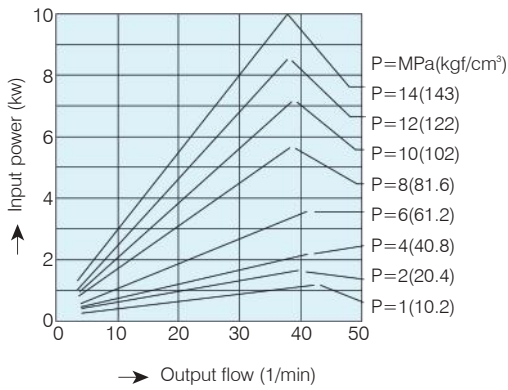
AR22 @ 1800 RPM



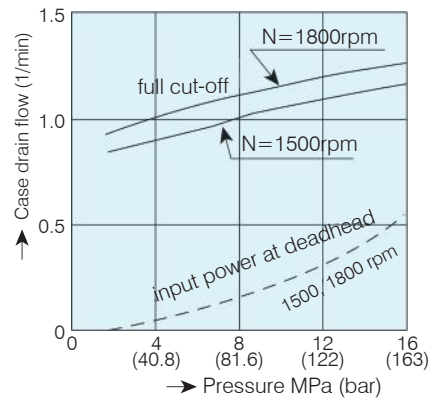
Noise level



Input power



Case drain flows

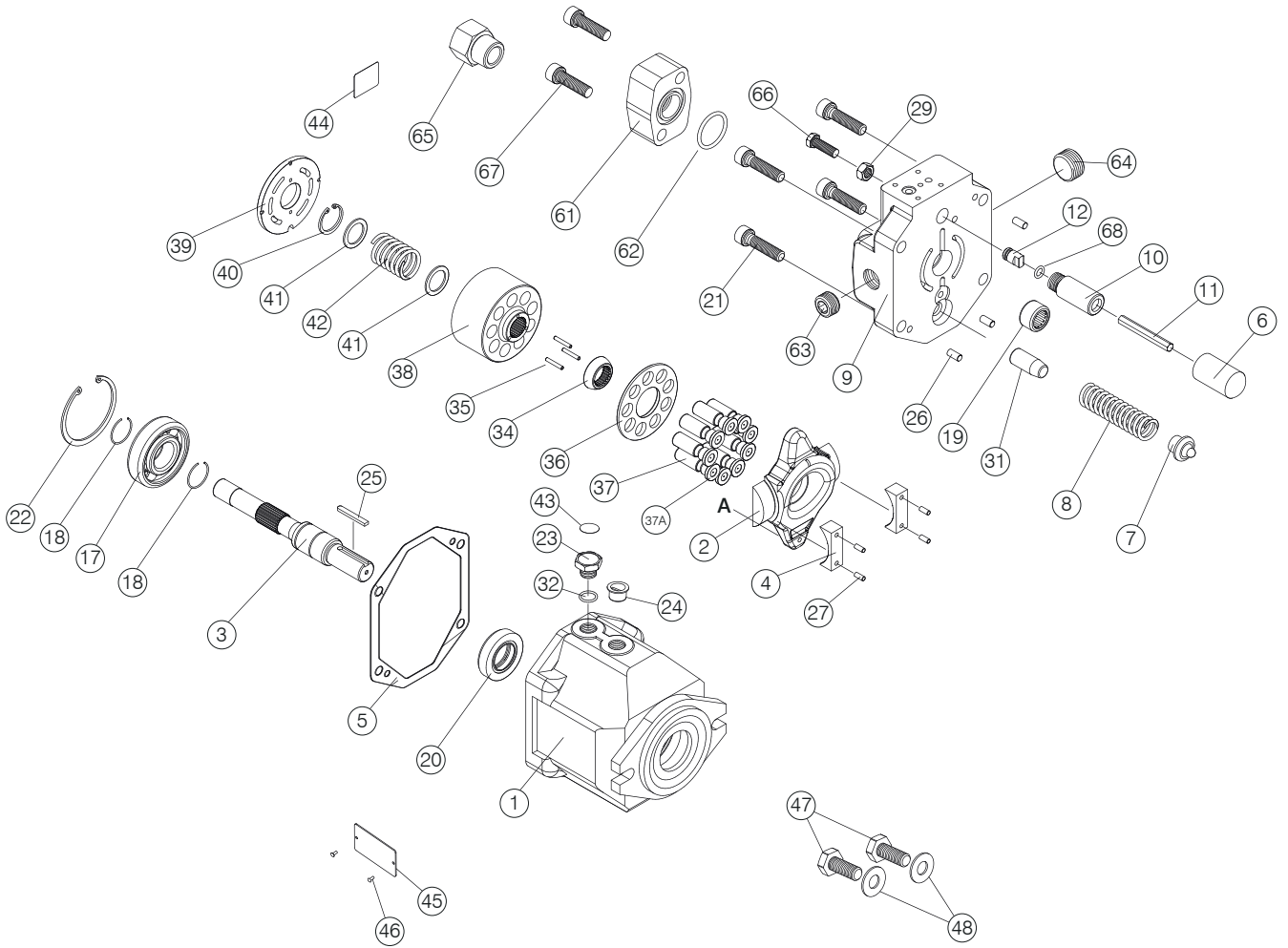


Test condition

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AR Series

AR Axial piston pump exploded view



AR Series

AR Axial piston pump exploded view

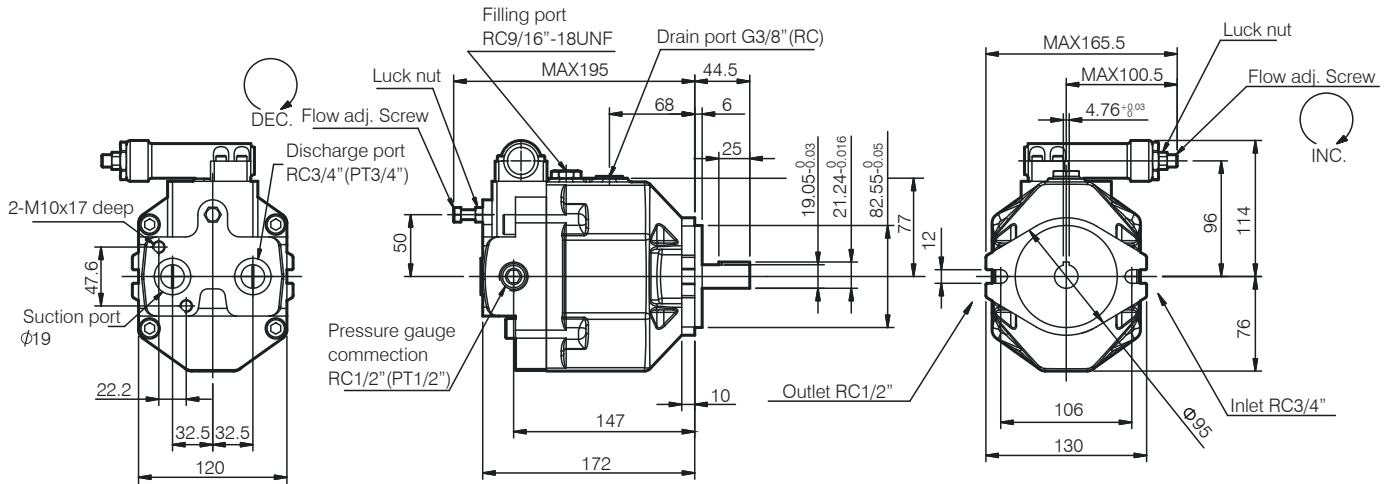
AR 16,22 pump

Item		Item	
1	Pump body	31	Sleeve piston
2	Swashplate	32	O-ring
3	Shaft	34	Ball guide
4	Trunnion carrier	35	Pin-cylinder block
5	Body seal	36	Slipper retainer
6	Servo piston sleeve	37A	Piston shose
7	Servo carrier	37	Piston assembly
8	Servo spring	38	Cylinder block
9	Pump cover	39	Snap ring
10	Flow sleeve	40	Washer cylinder block
11	Flow pin	41	Spring-cylinder block
12	Seal pin	42	Circular sticker
17	Shaft bearing	43	Square sticker
18	Snap ring	44	Nameplate
19	Cover bearing	45	Motor pin
20	Shaft seal	46	Screw
21	Cover screw	47	Washer
22	Snap ring	61	Flange
23	Screw	62	O-ring
24	Plug	63	Plug
25	Key	64	Plug
26	Roller	65	Adaptor
27	Pin-trunnion carrier	66	Spindle
29	Nut	67	Screw
		68	O-ring

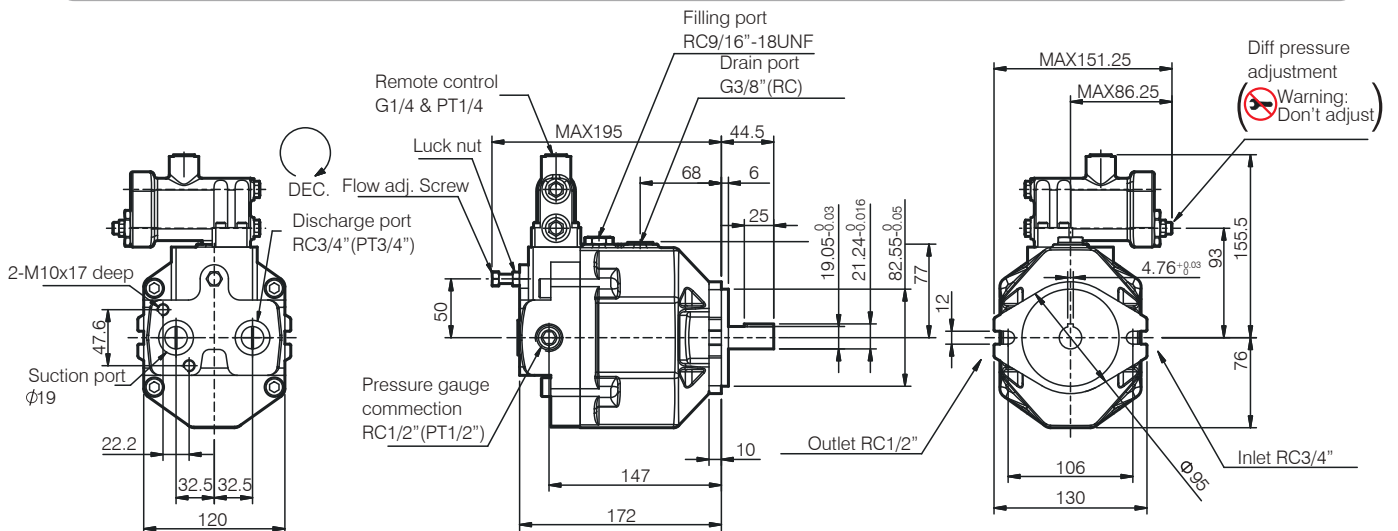
AR Series

Dimension

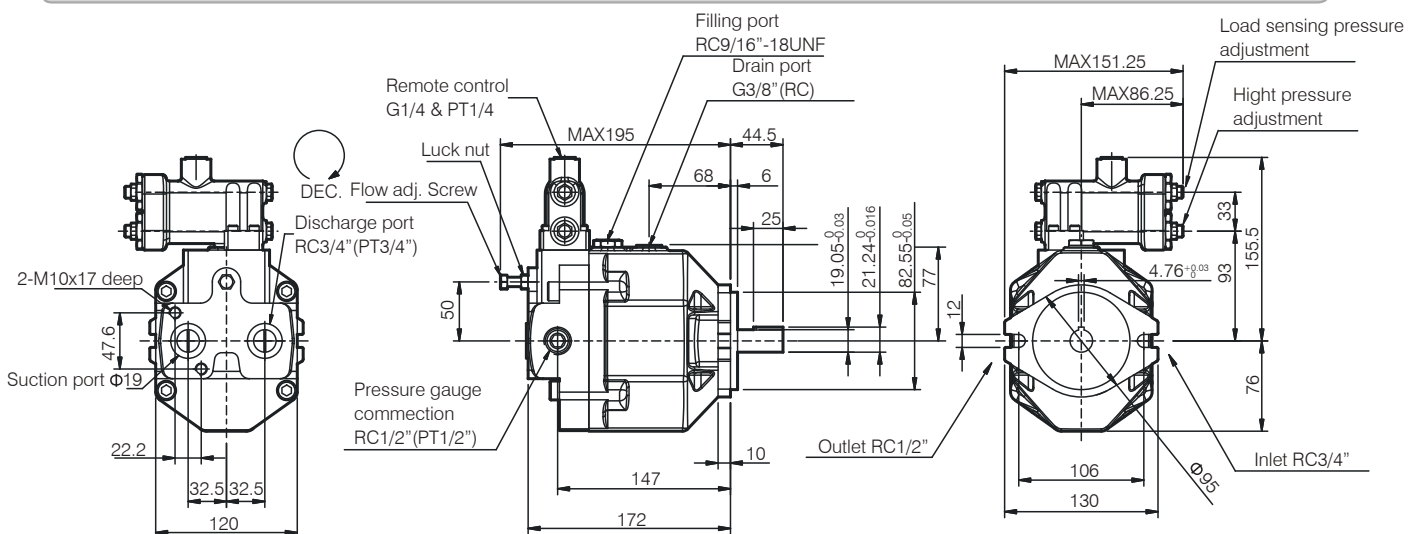
AR16 / 22 01



AR16 / 22 G



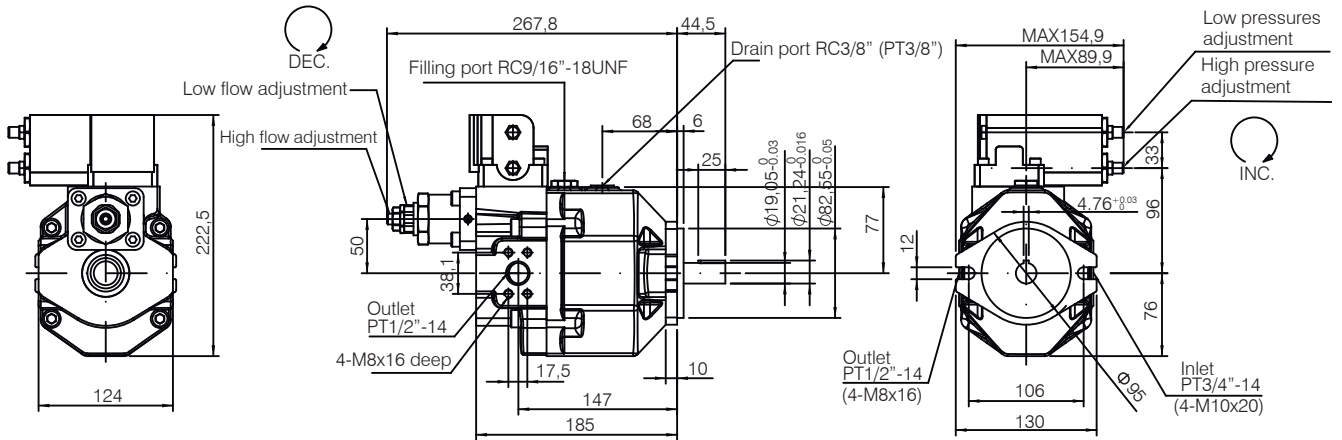
AR16 / 22HL



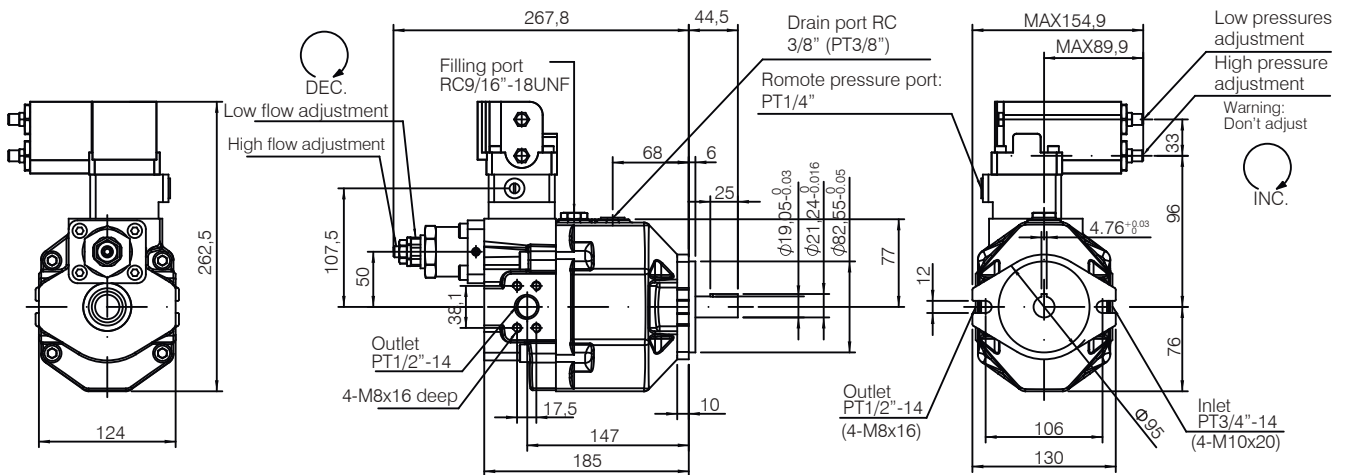
AR Series

Dimension

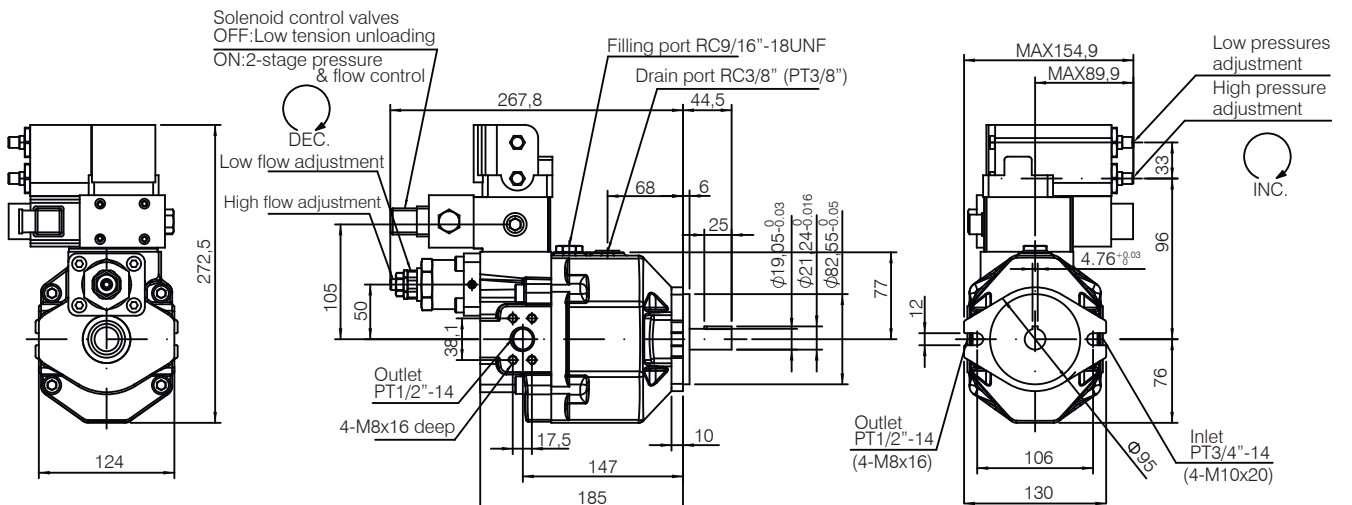
AR16 / 22C



AR16 / 22CG



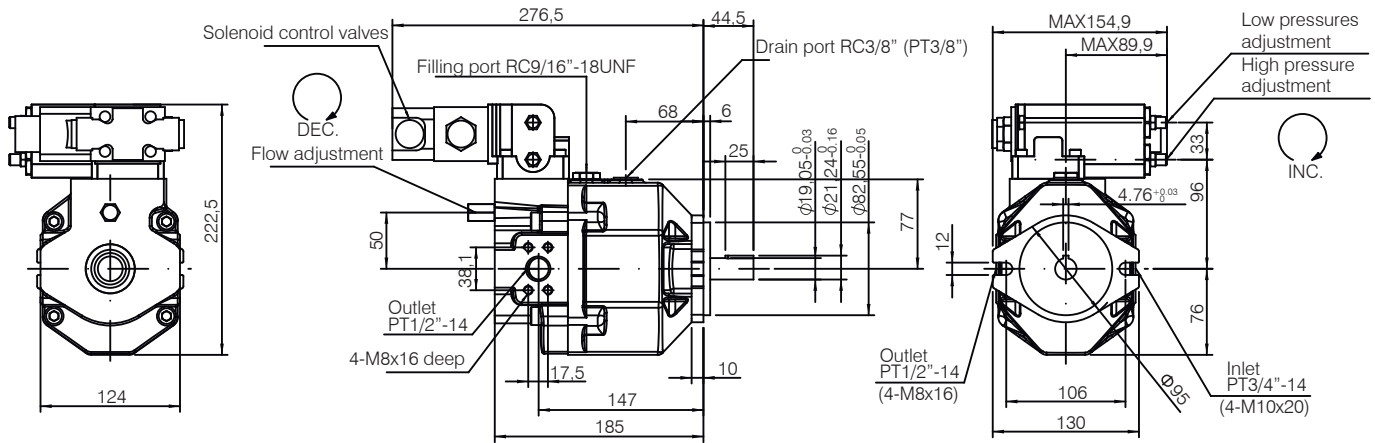
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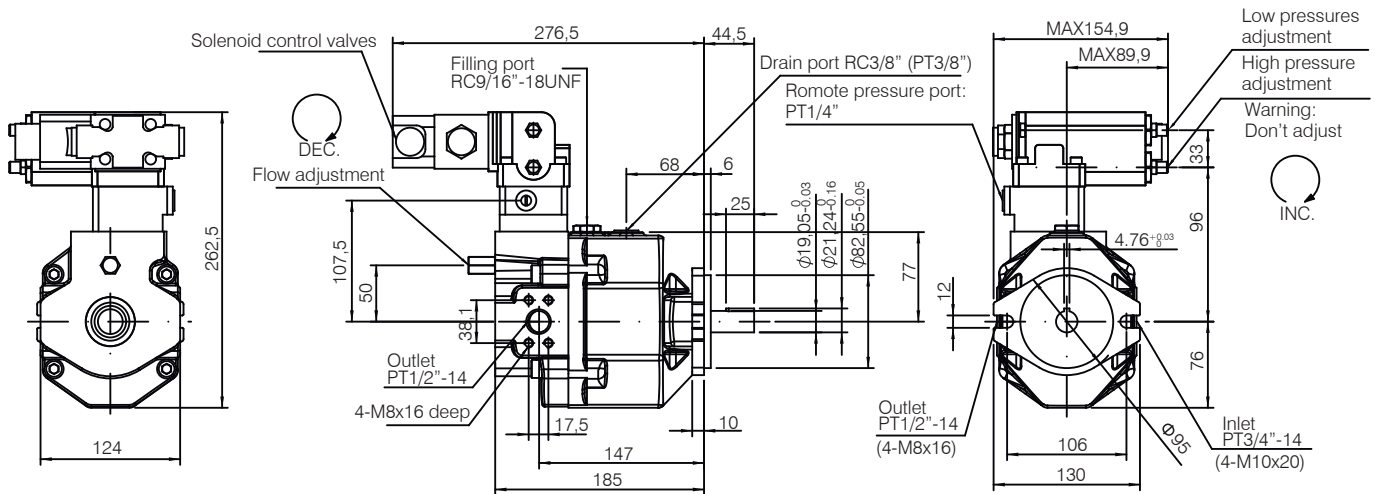
AR Series

Dimension

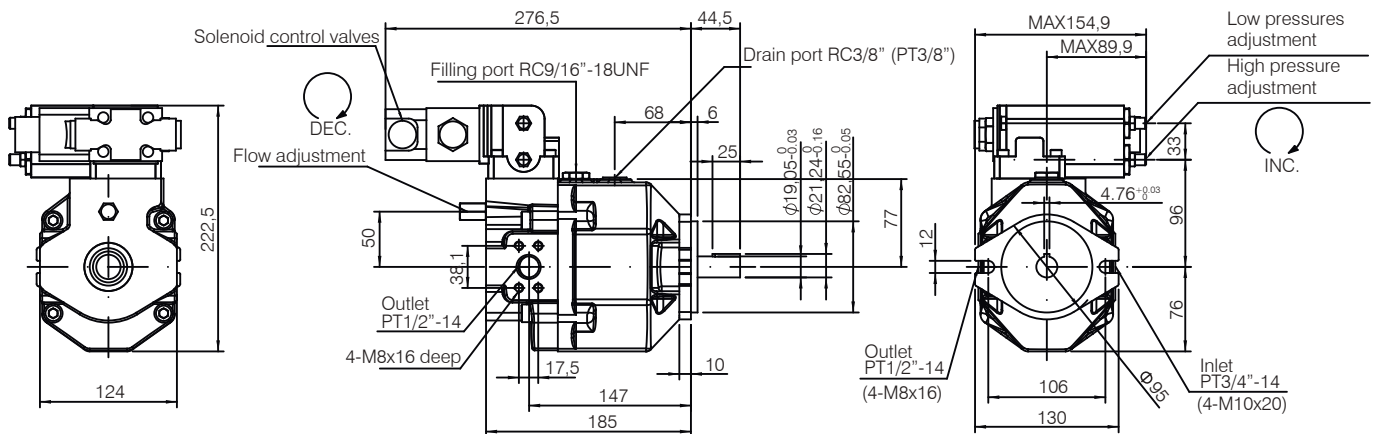
AR16 / 22D



AR16 / 22 DG



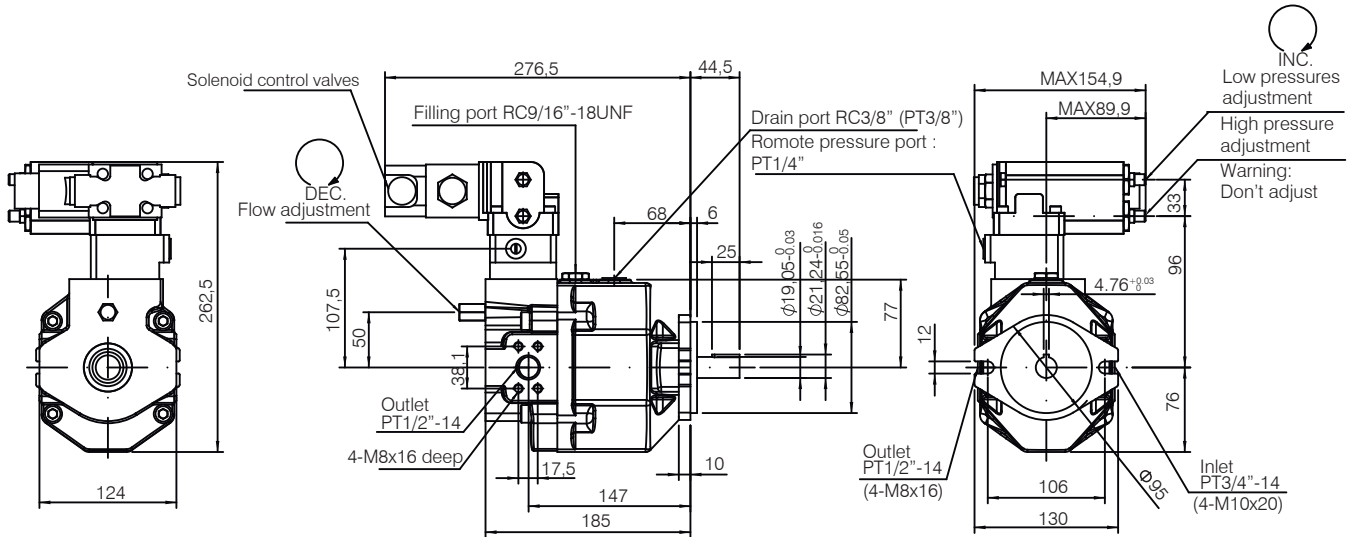
AR16 / 22 E



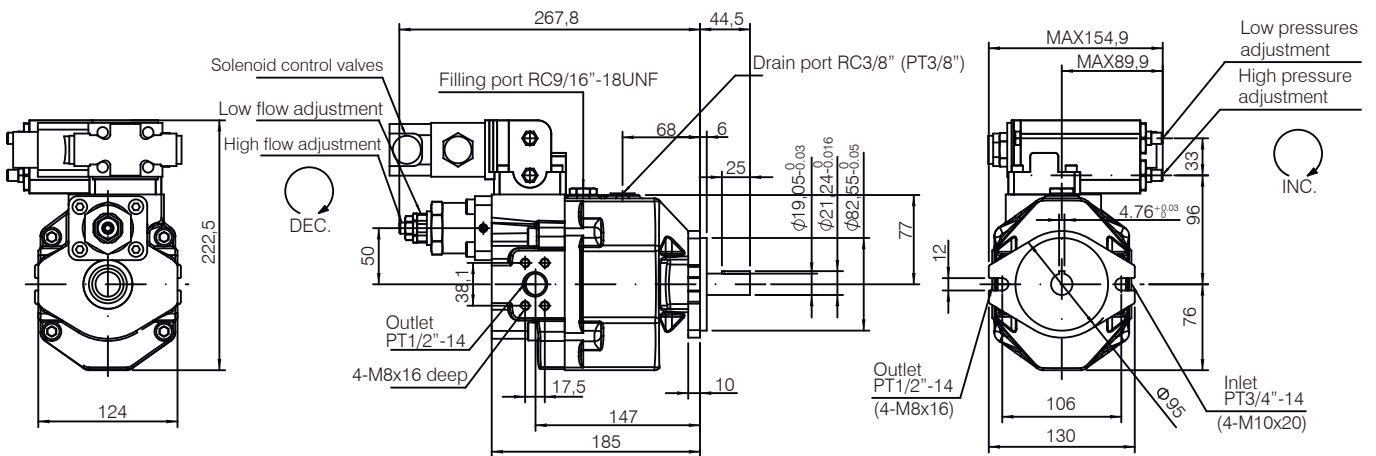
AR Series

Dimension

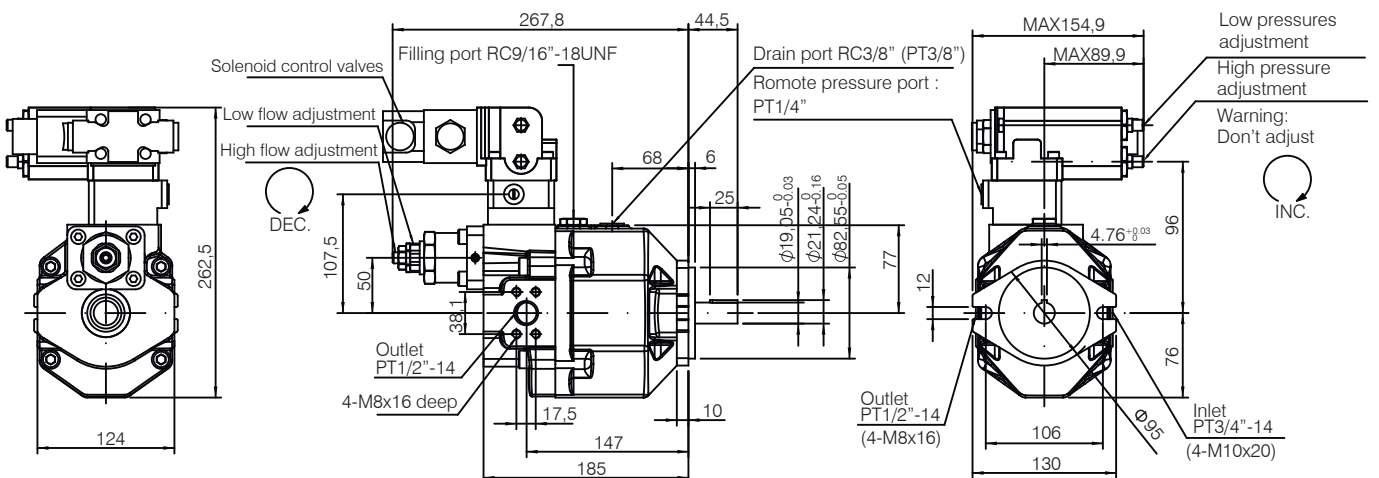
AR16 / 22 EG



AR16 / 22 F



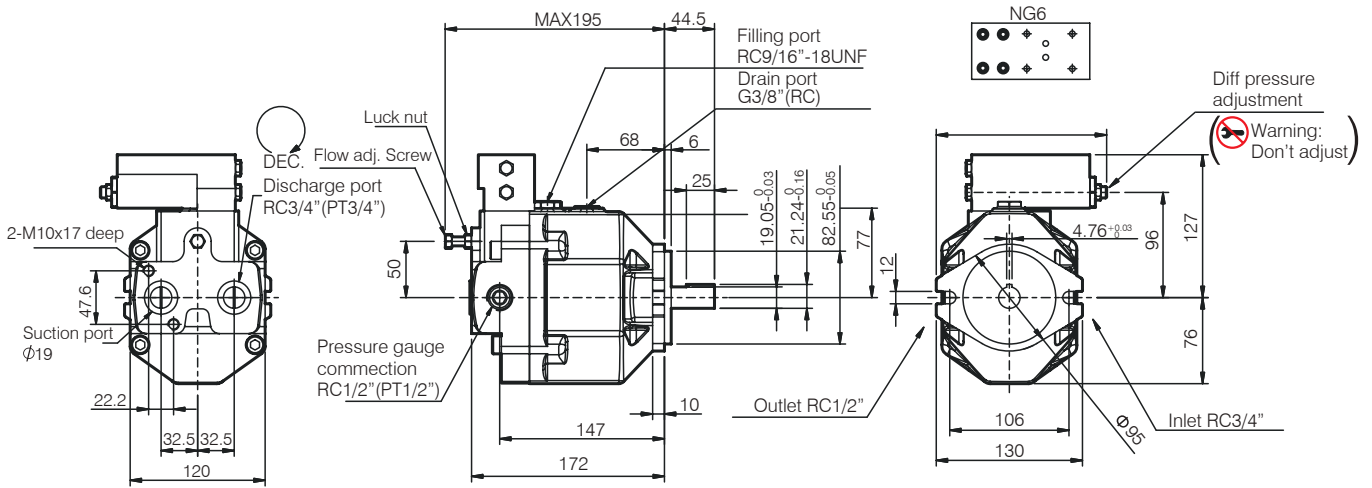
AR16/22 FG



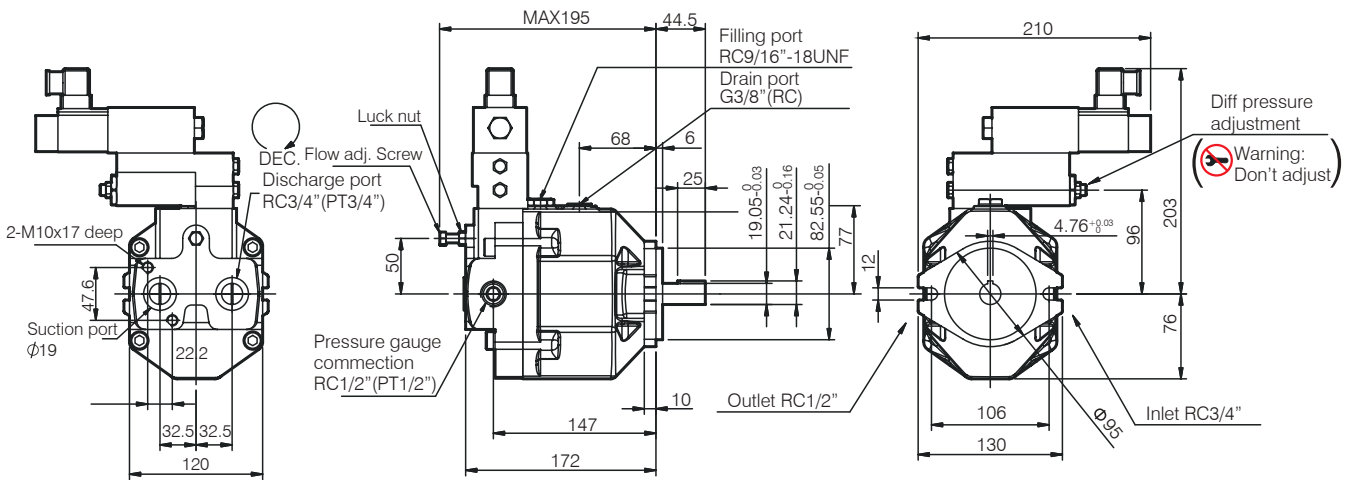
AR Series

Dimension

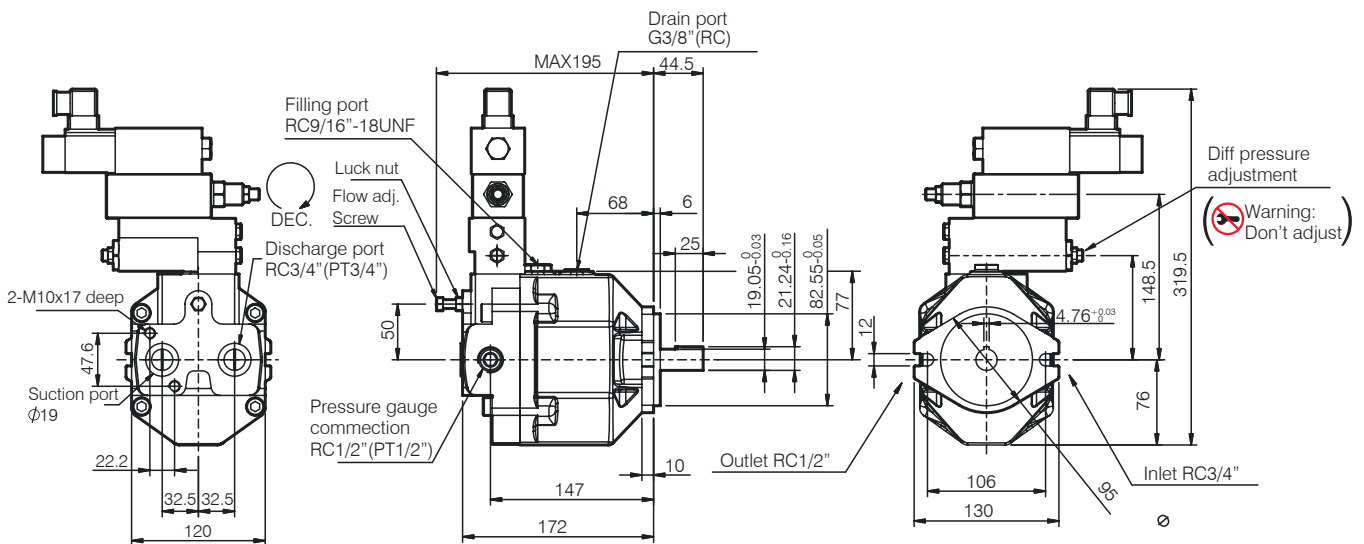
AR16 / 22 GM



AR16 / 22 GJ



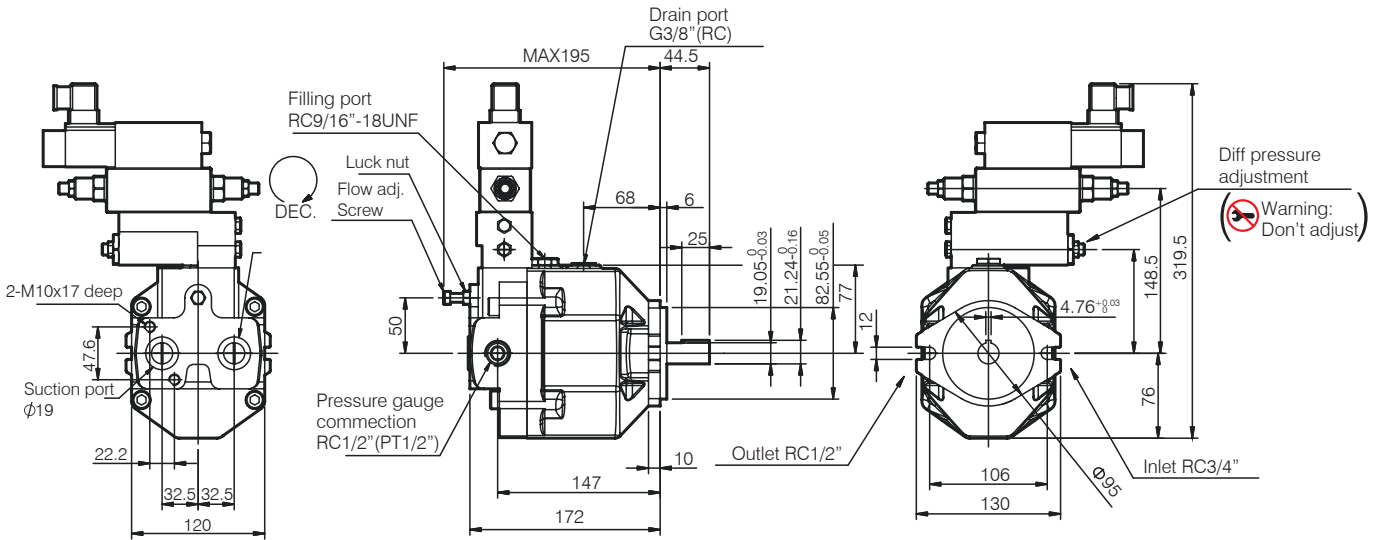
AR16 / 22 GR



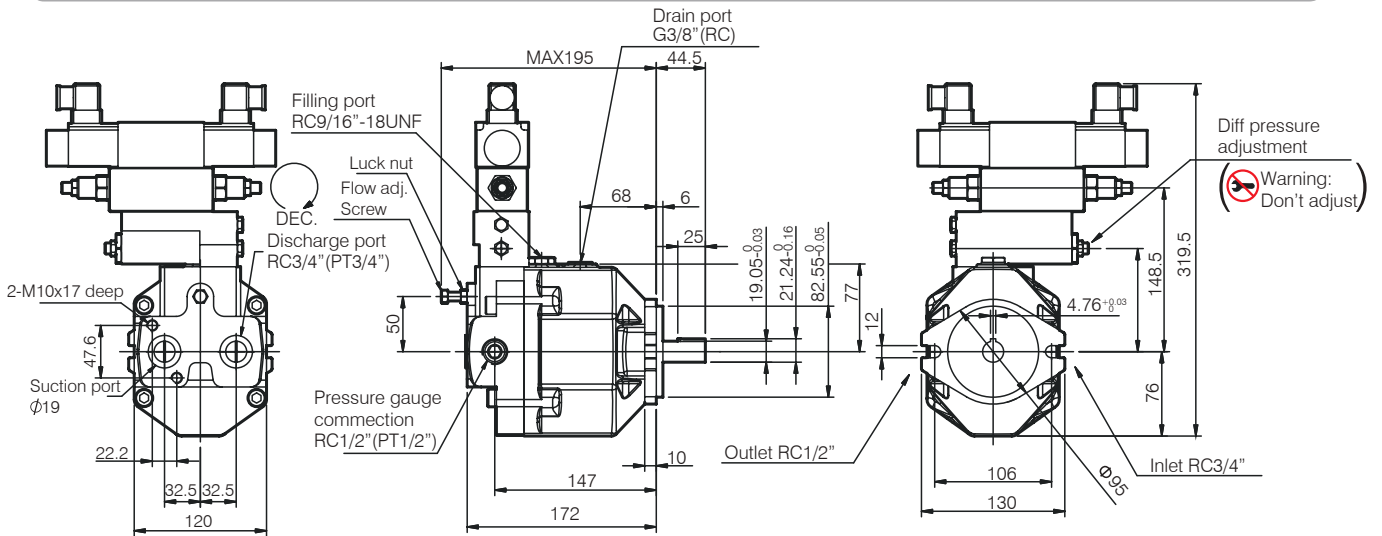
AR Series

Dimension

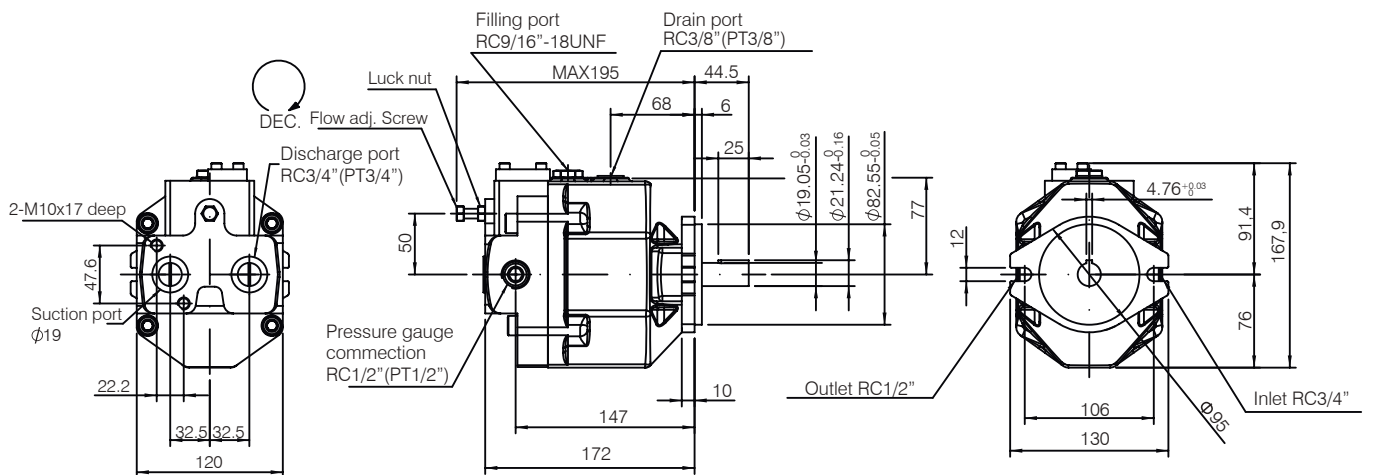
AR16 / 22 GB



AR16 / 22 GC



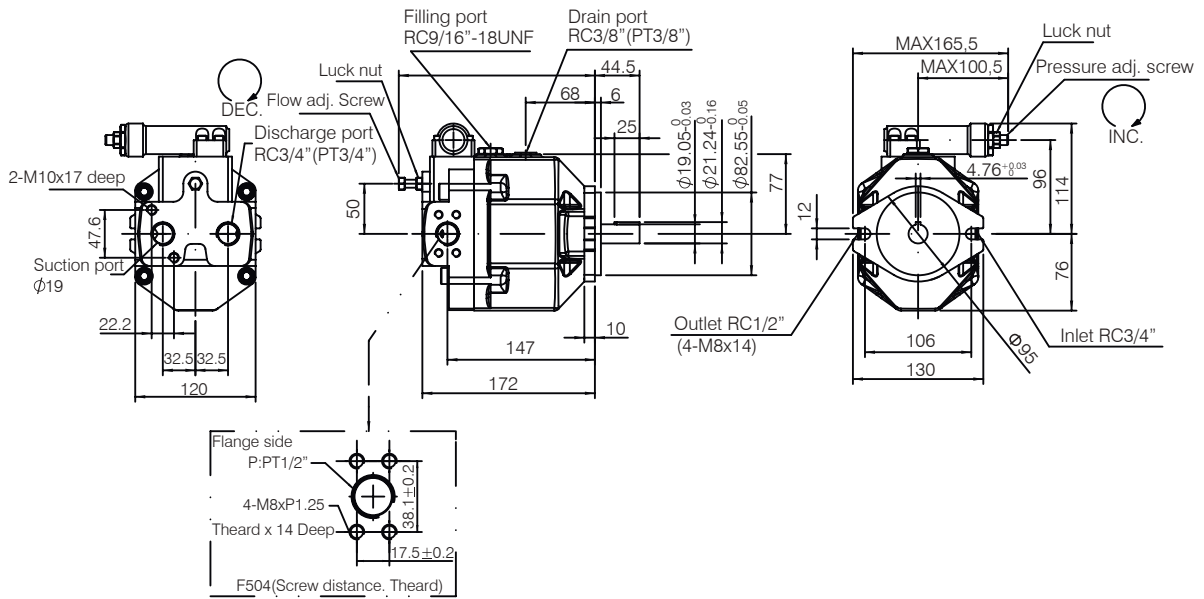
AR16 / 22 LN



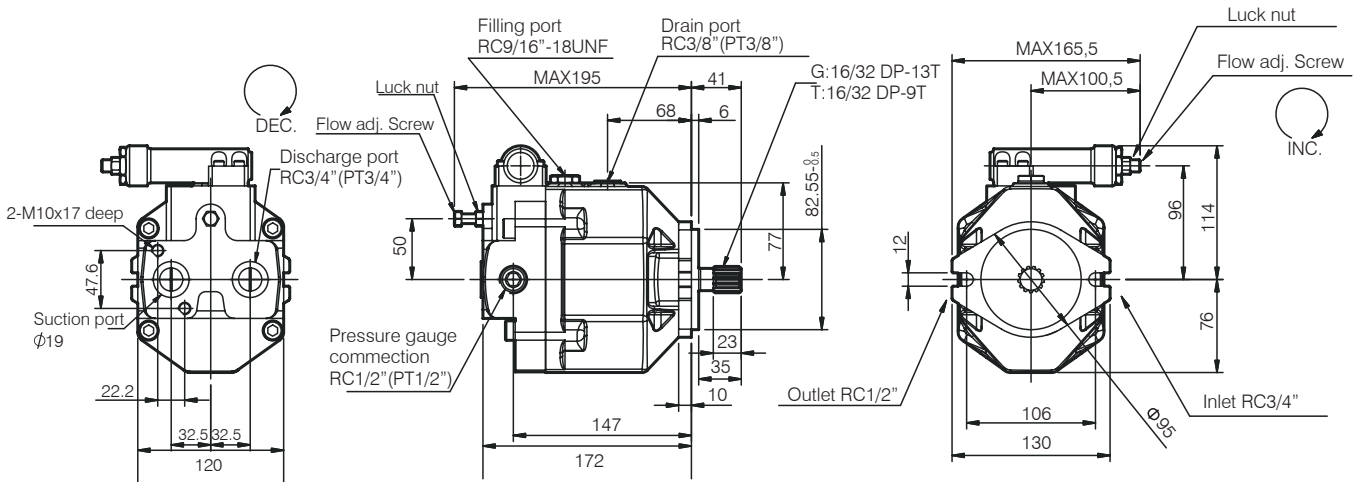
AR Series

Dimension

AR16 / 22 LC



AR Splined Shaft



AR Thru drive

