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"For All Your Hydraulic Needs"

Robust Design in Compact Dimensions

## Group 3 Cast Iron Gear Pump AP312HP

Hydraulic solutions for industrial and mobile applications

# Innovation and high efficiencies

## Introduction

Thanks to the positive field experiences recorded on the group 2 (AP212HP) and group 2.5 (AP250) cast iron pump and motor series, Bucher Hydraulics has completed its product range introducing the new AP312HP cast iron pump group 3.

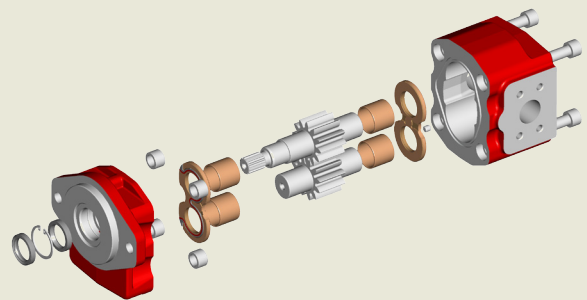
The new pump has been developed with modern and robust design concepts. Strong “2 pieces” structure, big shafts diameter as well as high quality materials, allows to the AP312HP to reach very high quality and performance levels, in order to fulfill the most innovative types of machines and applications.

- Robust design in compact dimensions
- Teeth design optimisation oriented to reduce pressure pulsation
- Reduced noise and vibration
- Reduced number of components - reduced weight
- Double shaft seals - More shaft protection and long life without external leakage
- HNBR seals
- Wide fluid temperature range admitted
- High volumetric and mechanical efficiencies
- Single or multistage possible configurations
- Strong splined shaft multistage connections
- AP212 aluminium / AP212HP cast iron rear interface
- Bucher validation method: long life expectancy

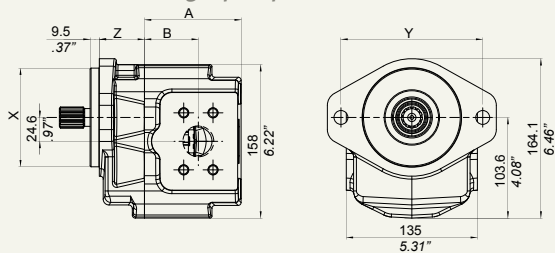
## Technical Data

cm <sup>3</sup> /rev	in <sup>3</sup> /rev	Pressure P1		Pressure P3		Min. speed r/min	Max. speed r/min
		bar	PSI	bar	PSI		
40	2.4	300	4300	320	4600	500	3000
45	2.7	300	4300	320	4600	500	3000
54	3.3	290	4100	310	4400	500	2500
63	3.8	280	4000	300	4300	500	2500
75	4.6	240	3400	260	3700	500	2500

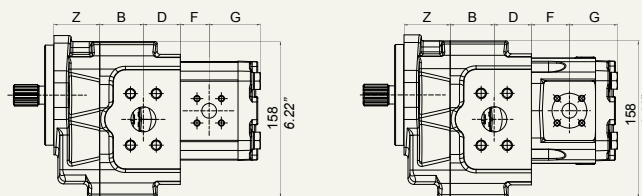
Displacement	40 - 75 cm <sup>3</sup> /rev
Maximum continuous pressure	300 bar
Fluid temperature range:	-15 to +80 °C
Extreme condition temperature range:	-25 to +110 °C
Recommended fluids hydraulic mineral oil-based	
Viscosity range: Recommended	20 - 120 mm <sup>2</sup> /s (cSt)
permitted	up to 700 mm <sup>2</sup> /s (cSt)
permitted for starting	2000 mm <sup>2</sup> /s (cSt)
Cleanliness recommended:	
for operating pressure >210 bar:	19/17/14 ISO 4406
for operating pressure <210 bar:	20/18/15 ISO 4406



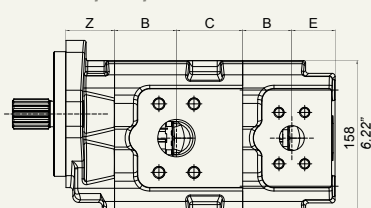
Single pump AP312HP



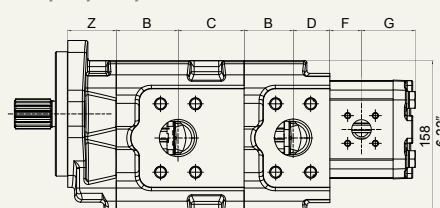
Double pump: AP312HP+AP212 Double pump: AP312HP+AP212HP



Double pump: AP312HP+AP312HP






Triple pump: AP312HP+AP312HP+AP212



## Single, double and triple pumps overall dimensions

### Bodies lateral connections

SAE FLANGED PORTS			BSP ports			SAE threaded ports UNF		
								
cm <sup>3</sup> /rev	Suction	Pressure	cm <sup>3</sup> /rev	Suction	Pressure	cm <sup>3</sup> /rev	Suction	Pressure
40	1 1/4"	1"	40	1 1/4"	1"	40	20	16
45	1 1/2"	1"	45	1 1/4"	1"	45	20	16
54	1 1/2"	1"	54	1 1/4"	1"	54	20	16
63	1 1/2"	1 1/4"	63	1 1/4"	1"	63	20	16
75	1 1/2"	1 1/4"	75	1 1/4"	1"	75	20	16

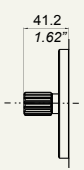
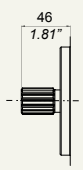

### Front cover types

	SAE B		SAE C	
	mm	in	mm	in
X	101.6	4"	127	5"
Y	146	5.75"	181	7.13"
Z	46.5	1.83"	49.5	1.95"

### AP312HP dimensions

cm <sup>3</sup> /rev	in <sup>3</sup> /rev	A		B		C		D		E	
		mm	in	mm	in	mm	in	mm	in	mm	in
40	2.4	85.5	3.37"	41.3	1.63"	-	-	37.5	1.48"	44.2	1.74"
45	2.7	88.5	3.48"	44.3	1.74"	-	-	37.5	1.48"	44.2	1.74"
54	3.3	94.3	3.71"	50.1	1.97"	-	-	37.5	1.48"	44.2	1.74"
63	3.8	99.7	3.93"	55.5	2.19"	67.5	2.66"	37.5	1.48"	44.2	1.74"
75	4.6	107.3	4.22"	63.1	2.48"	67.5	2.66"	37.5	1.48"	44.2	1.74"

### Shaft end types

		
41.2 1.62"	46 1.81"	54.6 2.15"
13 teeth 16/32 Dp (SAE B)	15 teeth 16/32 Dp (SAE B)	14 teeth 12/24 Dp (SAE C)

### AP212 aluminium pump dimensions

cm <sup>3</sup> /rev	in <sup>3</sup> /rev	F		G	
		mm	in	mm	in
4,5	0.2	24.3	.96"	47	1.85"
6,5	0.4	25.8	1.02"	48.5	1.91"
8,5	0.5	27.3	1.07"	50	1.97"
11	0.7	29.3	1.15"	52	2.05"
15	0.9	32.3	1.27"	55	2.17"
19	1.2	35.3	1.39"	58	2.28"
22	1.3	37.6	1.48"	60.5	2.38"
26	1.6	40.6	1.60"	63.5	2.50"

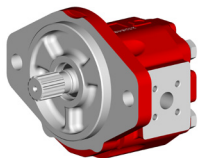
### AP212HP cast iron pump dimensions

cm <sup>3</sup> /rev	in <sup>3</sup> /rev	F		G	
		mm	in	mm	in
15	0.9	38.3	1.51"	48.3	1.90"
19	1.2	41.3	1.63"	51.3	2.01"
22	1.3	43.55	1.71"	53.55	2.11"
26	1.6	46.55	1.83"	56.55	2.23"
29	1.8	48.55	1.91"	58.55	2.31"
33	2.0	51.55	2.03"	61.55	2.42"

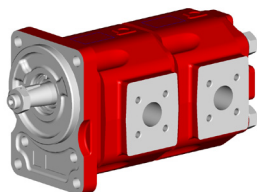
## Areas of application

Cast iron external gear pumps and motors family products

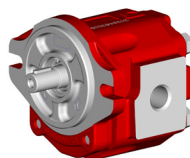
AP212HP



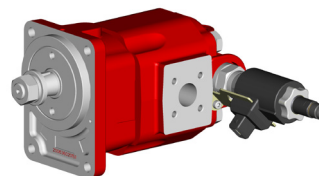
AP212HP LN



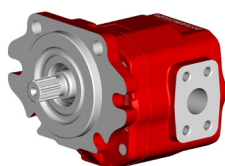
APM212HP



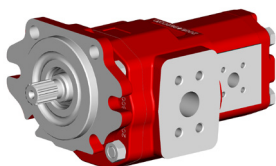
APFM212HP



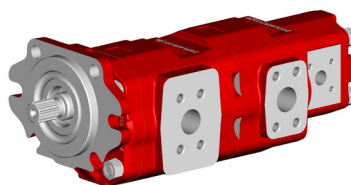
AP250



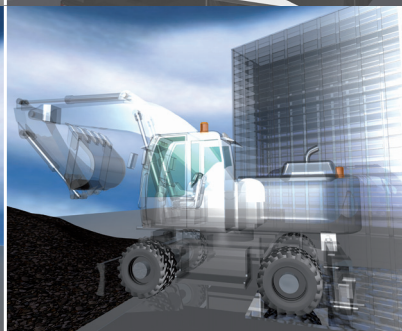
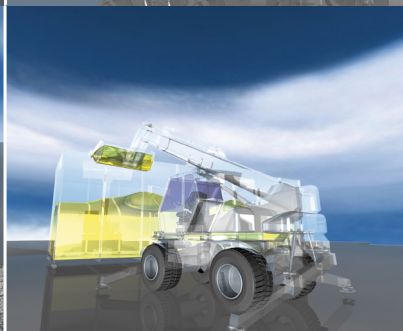
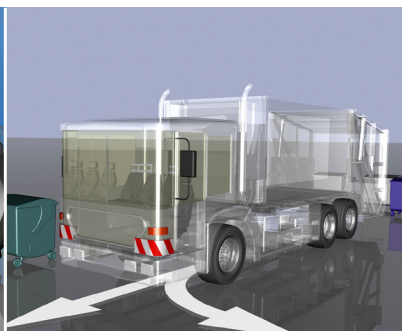
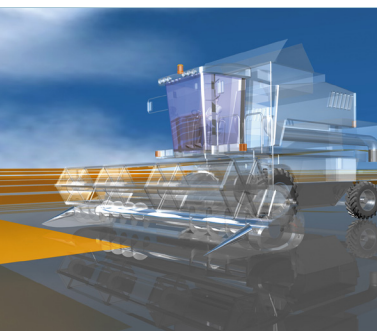
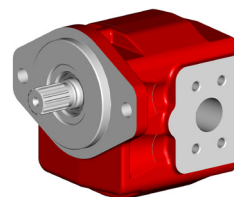
AP250+AP212LN



AP250+AP250+AP212LN



AP312HP



# Smart Solutions. Superior Support.

For further information please  
do not hesitate to contact us.

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