TECHNICAL DATA SHEETS
and
RECOMMENDATIONS

ABER

Manufacturing Hydraulic Excellence since 1972

www.ABER.pt

BENT AXIS PISTON PUMPS
RECOMMENDATIONS BEFORE START-UP

Manufacturer's Declaration

ABER ensures compliance of its products with the essential health and safety requirements of the harmonized standards EN ISO 12100:2010 and EN 809:1998+A1:2009.

General information

BI pumps are axial piston pumps with single and double fixed displacement. They are available from 25 to 172 cm^3/rot. and with a maximum pressure of 400bar. They can be assembled directly into the PTO´s, with the exception of the PTO's of two shafts without support.

Features:

- high precision
- good performance
- small dimensions
- light
- robust
- low environmental temperatures
- low noise
- low weight
- changeable direction of rotation without risk of breaking the pump

Pump selection

To ensure that the PTO will not be overloaded, and get the correct flow requirements with the speed of the engine chosen, it is important to use a pump with the right capacity. Pump capacity (D), expressed in cm^3/rot, can be calculated using the following formula:

$$D = \frac{Q \times 1000}{N \times Z}$$

D-Pump displacement [cm^3/rot]
Q-Flow required [l/min]
N-Motor speed
Z-Engine to PTO ratio

In order to not overload the PTO's mechanical units, it is important to calculate the torque and power consumed by the pumps. Torque and power are calculated with the following expressions:

$$M = \frac{D \times Pb}{63} \qquad P = \frac{D \times N \times Z \times Pb}{600 \times 0{,}95 \times 1000}$$

M-Torque [Nm]
Pb-Pressure [bar]
P-Power [kW]
N-Motor speed [rpm]
Z-PTO ratio
0,95-Pump efficiency (can change from one pump to another)

ATTENTION

If the calculated load exceeds the maximum allowed for the PTO, a different combination should be selected.

Hose selection

In order to avoid intense heat generation and cavitation phenomenon that causes noise and deterioration of the pump ABER recommends the following speeds and dimensions of the hoses. Inlet pressure range is from 0,8 to 2 bar abs.

Inlet hose	Max. 1m/s
Outlet hose	Max. 5m/s

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-50	1"1/2
50-70	1"3/4
70-90	2"
90-110	2"1/4
110-140	2"1/2
140-170	2"3/4
170-200	3"
200-240	3"1/4

Outlet Hose					
Flow (l/min)	**Internal pipe diameter (inch)**				
30	1/2"	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"	1/2"
60	3/4"	5/8"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"	5/8"
80	1"	3/4"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"	3/4"
100	1"	1"	1"	1"	3/4"
110	1"	1"	1"	1"	1"
120	1"	1"	1"	1"	1"
130	1"	1"	1"	1"	1"
140	1"1/4	1"	1"	1"	1"
150	1"1/4	1"	1"	1"	1"
160	1"1/4	1"1/4	1"	1"	1"
170	1"1/4	1"1/4	1"	1"	1"
180	1"1/4	1"1/4	1"1/4	1"	1"
190	1"1/4	1"1/4	1"1/4	1"	1"
200	1"1/2	1"1/4	1"1/4	1"1/4	1"
210	1"1/2	1"1/4	1"1/4	1"1/4	1"1/4
220	1"1/2	1"1/4	1"1/4	1"1/4	1"1/4
230	1"1/2	1"1/2	1"1/4	1"1/4	1"1/4
	50-100	100-150	150-200	200-300	300-350
	P (bar)				

ATTENTION

The recommended speeds and dimensions specified may not be enough when the temperatures are too low, the tank is below the level of the pump, the inlet hose is long or there are many valves and fittings in the inlet hosing. In these cases we recommend increasing the diameter of the hoses and reducing the pump rotation speed.

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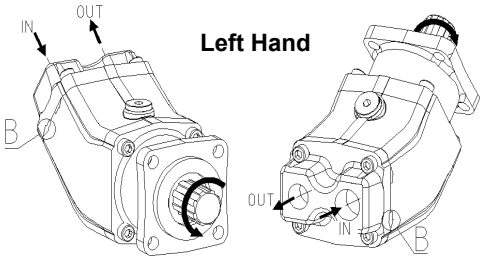
BENT AXIS PISTON PUMPS
RECOMMENDATIONS BEFORE START-UP

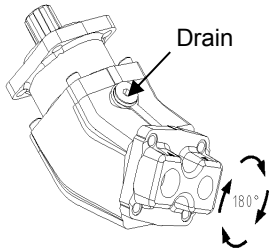
Direction of rotation

1. Check PTO direction of rotation.

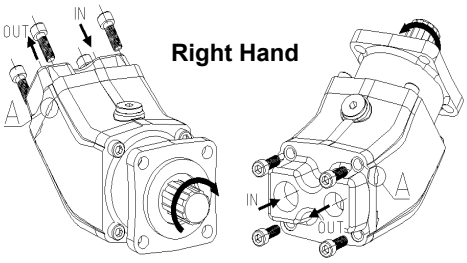
2.The direction of rotation of the pump must be according to the PTO rotation. ABER normally supplies pumps with left hand rotation, change it if needed.



2.1. Fully unscrew the four end cover



2.2. Turn the connection cover 180º



2.3. Screw again the four screws:
-torque BI_M / BI_M7 = 80Nm
-torque BI_P / BI_P7 / BI_H9 = 110Nm

3. Grease spline shaft with solid lubricant before installation. Connect the pump to the PTO (apply 80Nm torque in the tightening nuts). High efforts or shocks are not recommended during the installation. The pump must be connected without making use of any type of tool that forces its assembly. In driving gear application and couplings use circlips and/ or washers with one M10 screw and locking fluid (70Nm).

ATTENTION

During the installation always leave the inlet port in a higher or equal level than outlet port. This increases the pump life.

4. Remove all protection covers from the threaded holes (inlet/outlet). Apply the inlet and outlet fittings into the pump (query the tightening informations from the fittings manufacturer). Connect the outlet and the inlet pipes to the accessories (always respect recommended hoses dimensions and thread dimensions). Be sure that all connections are robust and well-sealed.

5. Before start-up, the housing must be filled with the same hydraulic fluid used in the system. Re-fit drain plug and torque to 50Nm.

Fluids

For BI pumps range, ABER recommends the use of high quality mineral oil type ISO HM or DIN 51524-2 HLP, with viscosities from 20 to 40mm²/s (cSt) at working temperature. The working viscosity limits stay between minimum 10mm²/s (cSt) and maximum 400mm²/s (cSt). In situations, when the viscosities stay between 400mm²/s (cSt) and 1500mm²/s (cSt), the system can be turned on, but cannot be loaded. It is possible to use other oils with the same characteristics, but only after consulting and getting authorization from ABER. The designation 32, 46, 68, etc. denotes the viscosity at 40°C of the oil. When choosing the oil it is necessary to be aware of the low viscosity with the increase of the temperature. Therefore, we recommend that when you want to work above that temperature, you should choose an oil with more viscosity (thicker) in order to compensate the reduction of viscosity when the temperature increases. The maximum temperature allowed in the circuit is 75ºC. We advise you to use an oil cooler when you verify that the system's temperature is about or higher than these values. The oil must be replaced after 1000 working hours or at least once a year, change filters elements as well.

Drain line

BI pumps range is of fixed flow and do not need to use an exterior drain line because they are drained from the inside. If they are to be applied in an engine PTO, it is mandatory to use a by-pass valve and it is recommendable the use of a drain line directly from the by-pass valve to the oil tank.

Filtration

The filtration is extremely important and may influence or even determine the life of the equipment. ABER recommends the use of a return filter and an air filter with an absolute filtration degree of 10µm, as according to the ISO 4406 class 18/13. The first filter to be applied into the system must be replaced as soon as it reaches the 50 working hours; after the first replacement, it must be replaced along with the oil or when pressures out of the common are verified in the return.

ATTENTION

Be sure that the whole system is perfectly cleaned before filling it with oil. Never mix water or other liquids, different oil qualities, viscosities or brands with the oil in the system. If any oil leaks out from below the nameplate of the pump, stop the system immediately to determine the cause of the leak and correct the problem source. Make shore that there was no gearbox contamination.

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Faults; cause and remedies

Faults	Cause	Remedies
No oil flow	1.Empty tank 2.Closed valve in inlet hose 3.Air in inlet hose 4.Wrong sense of rotation 5.Reversed hoses 6.No input power 7.Pump damaged	1.Fill tank with recommended fluid 2.Open valve 3.Put tank above the pump level 4.Change rotation sense 5.Reverse hoses 6.Replace power source or other damaged equipment 7.Replace pump
Equipment works with irregular movements	1.Air in housing 2.Air leakage in inlet hose 3.Low oil level 4.Pump damaged	1.Fill housing with recommended fluid 2.Repair air leakage 3.Fill tank with recommended fluid 4. Replace pump
Pump is noisy	1.Small diameter hose 2.Restriction in inlet hose 3.Very thick oil 4.Air in inlet hose 5.Pump damaged	1.Replace inlet hose for other with a larger diameter 2.Remove restrictions 3.Replace for an recommended fluid 4. Put tank above the pump level, check air pressure in the tank 5.Replace pump
Oil is too hot	1.Low oil level 2.Small tank 3.Dirty oil 4.Relief valve improperly set 5.Relief valve stuck in open position 6.Very thick oil 7.Too much flow	1.Fill tank with recommended fluid 2.Replace for a bigger tank 3.Replace oil and filter 4.Adjust for equipment specifications or replace if necessary 5.Clean and re-set for equipment specifications 6.Replace for an recommended fluid 7.Reduce speed or replace for a smaller displacement pump
Equipment works very slow compared with the usual	1.Relief valve improperly set 2.Relief valve stuck in open position 3.Pump damaged	1.Adjust for equipment specifications or replace if necessary 2.Clean and re-set for equipment specifications 3.Replace pump
Oil leakage	1.From inlet/outlet lines 2.From below the nameplate 3.From body sections	1.Tighten fittings and hoses, or replace if necessary 2.Stop the system immediately to determine the cause of the leak and correct the problem source 3.Tighten bolts for specified torque, or replace damaged o'ring or body

When the pump is working, never touch or pull hoses or intermediate shaft when applied. When intermediate shaft is applied take into account that parts can be ejected.
The application of the pumps must follow all the instructions hereby mentioned in order to assure the safety of all personal working with the equipment including its surroundings, assure a long life to the product and preserve the warranty of the brand. All applications that do not follow the hereby instruction are solely the users responsibility. If there should happen any malfunctioning, it is strictly forbidden the disassembly of the product except if it is being made by a qualified technician of the brand or if there is a special authorization to do that. If this specification should not be followed, all warranties might be lost.

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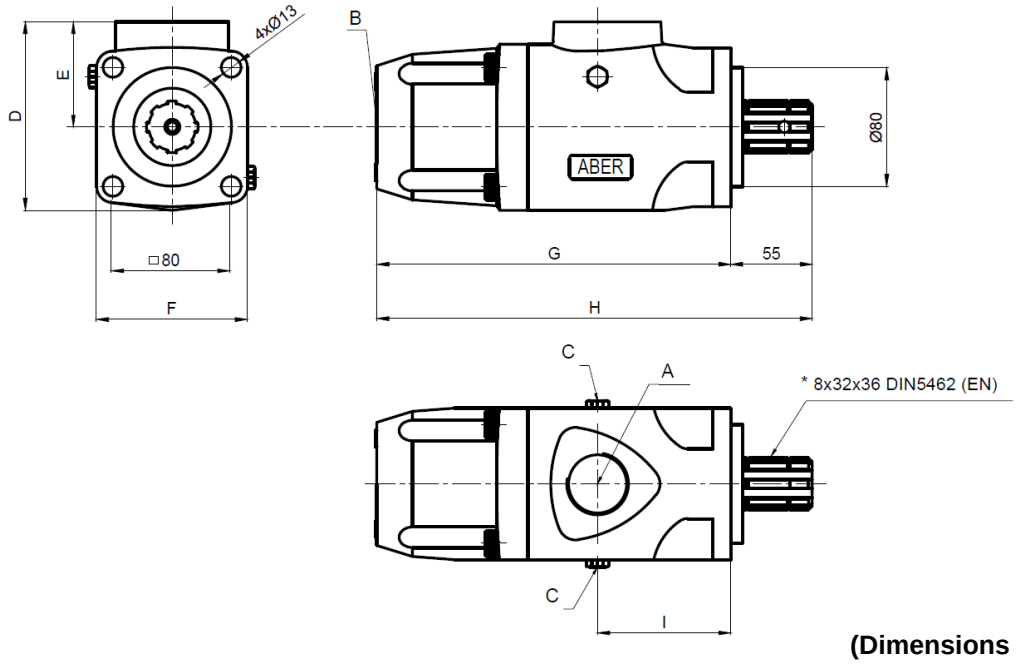
Main Dimensions



(Dimensions in mm)

Main Data							
Pumps BHZ_EN	**25319**	**25419**	**25519**	**25619**	**25716**	**25719**	**25916**
Cylinder capacity (cm³/Rot.)	32	40	50	60	70	80	110
Output at max. rotation (l/min)	48	60	75	90	105	96	132
Operating pressure (bar) (up to)	250	250	250	250	250	250	250
Peak pressure (bar)	320	320	320	320	320	320	320
Rotation mín. (rpm)	200	200	200	200	200	200	200
Rotation máx. (rpm)	1500	1500	1500	1500	1500	1200	1200
Weight (kg)	12	12	13	13	16	16	21,5
Sense of Rotation	Bi-directional						
A-Oil inlet (BSP)	1''1/4	1''1/4	1''1/4	1''1/4	1''1/2	1''1/2	1''1/2
B-Oil Outlet (BSP)	3/4''	3/4''	3/4''	3/4''	1''	1''	1''
C	Oil drain plug						
D	125	125	125	125	148	148	152
E	69	69	69	69	72	72	80
F	102	102	102	102	118	118	142
G	240	240	240	240	259	259	270
H	295	295	295	295	314	314	325
I	90	90	90	90	118	118	134

How to order:
Example: Pump 32cm³, operating pressure up to 250 bar; peak pressure 320 bar, ref. BHZ with DIN 5462 (EN) ➔ BHZ25319EN

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Diagram
Flow - Speed

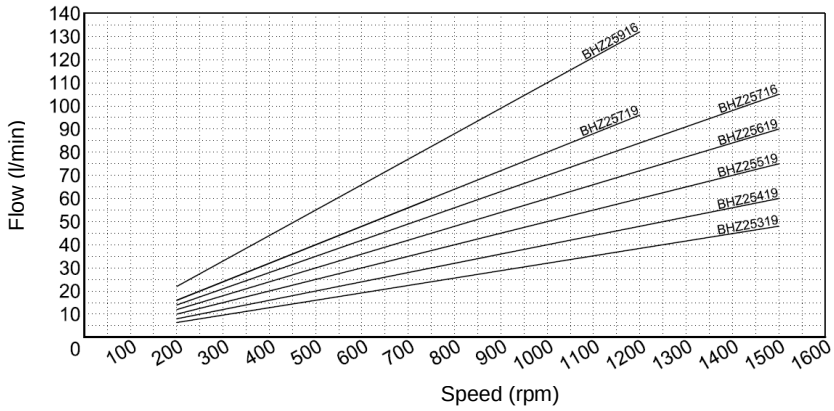
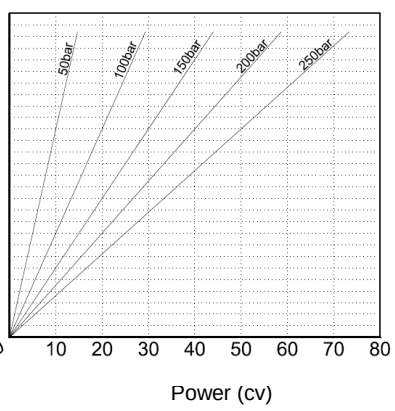


Diagram
Input Power - Flow – Pressure



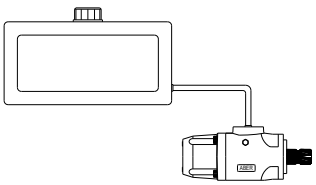
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4
100-120	2"
130-150	2"1/4

Outlet Hose				
Flow (l/min)	**Internal pipe diameter (inch)**			
30	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"
60	3/4"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"
80	1"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"
100	1"	1"	1"	1"
110	1"	1"	1"	1"
120	1"	1"	1"	1"
130	1"	1"	1"	1"
	50-100	100-150	150-200	200-300
	P (bar)			

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

CTI BHZ_EN 1306- 4

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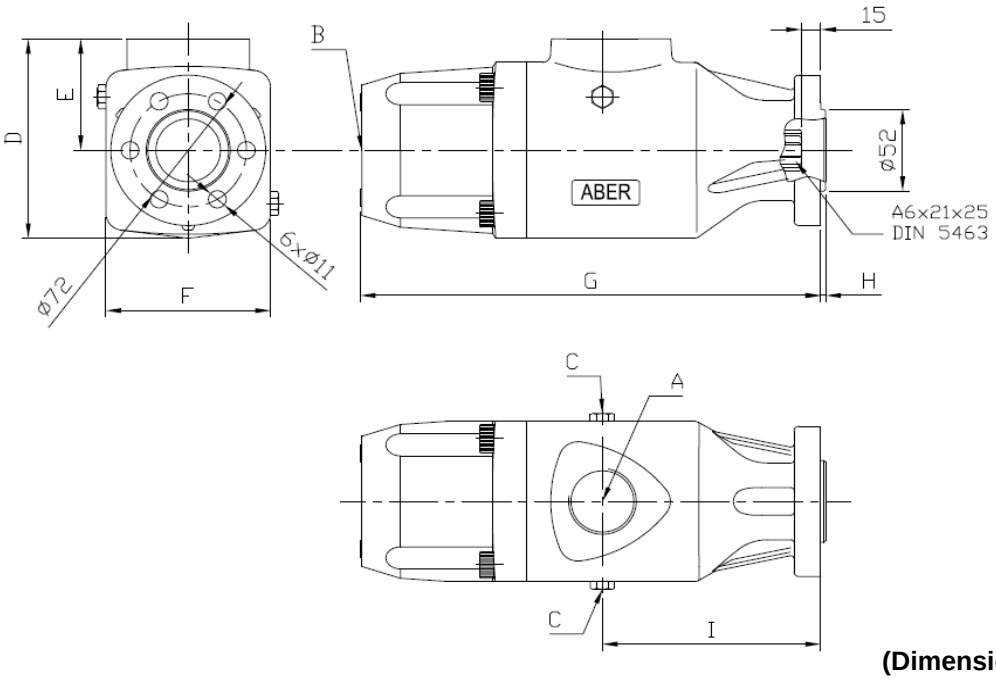
Main Dimensions



(Dimensions in mm)

Main Data							
Pumps BHZ_UNI	**25319**	**25419**	**25519**	**25619**	**25716**	**25719**	**25916**
Cylinder capacity (cm³/Rot.)	32	40	50	60	70	80	110
Output at max. rotation (l/min)	48	60	75	90	105	96	132
Operating pressure (bar) (up to)	250	250	250	250	250	250	250
Peak pressure (bar)	320	320	320	320	320	320	320
Rotation mín. (rpm)	200	200	200	200	200	200	200
Rotation máx. (rpm)	1500	1500	1500	1500	1500	1200	1200
Weight (kg)	12	12	13	13	16	16	21,5
Sense of Rotation	Bi-directional						
A-Oil inlet (BSP)	1''1/4	1''1/4	1''1/4	1''1/4	1''1/2	1''1/2	1''1/2
B-Oil Outlet (BSP)	3/4''	3/4''	3/4''	3/4''	1''	1''	1''
C	Oil drain plug						
D	125	125	125	125	148	148	152
E	69	69	69	69	72	72	80
F	102	102	102	102	118	118	142
G	240	240	240	240	259	259	270
H	3	3	3	3	3	3	3
I	90	90	90	90	118	118	134

How to order:
Example: Pump 32cm³, operating pressure up to 250 bar; peak pressure 320 bar, ref. BHZ with DIN 5463 (UNI) ➔ BHZ25319UNI

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Diagram
Flow - Speed

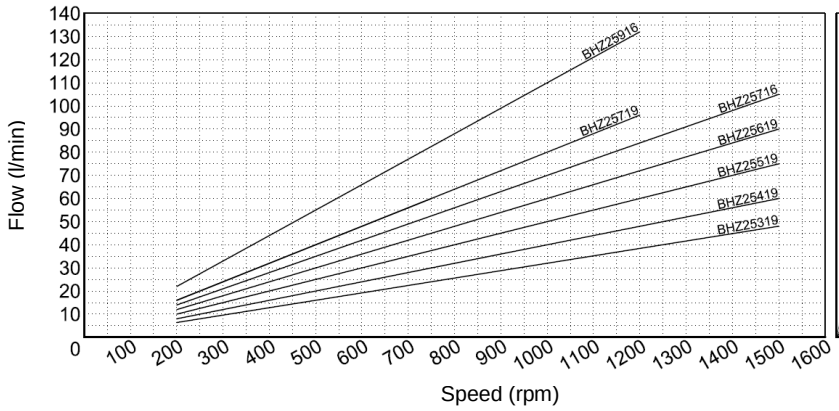
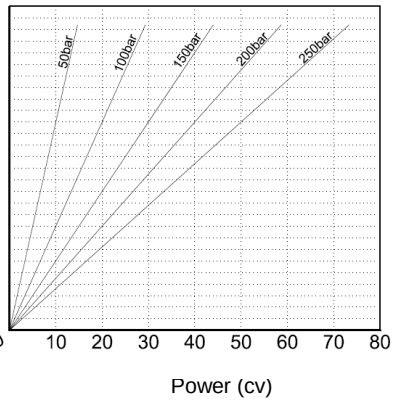


Diagram
Input Power - Flow – Pressure



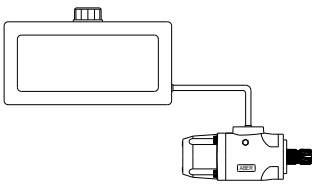
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4
100-120	2"
130-150	2"1/4

Outlet Hose				
Flow (l/min)	**Internal pipe diameter (inch)**			
30	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"
60	3/4"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"
80	1"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"
100	1"	1"	1"	1"
110	1"	1"	1"	1"
120	1"	1"	1"	1"
130	1"	1"	1"	1"
	50-100	100-150	150-200	200-300
	P (bar)			

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

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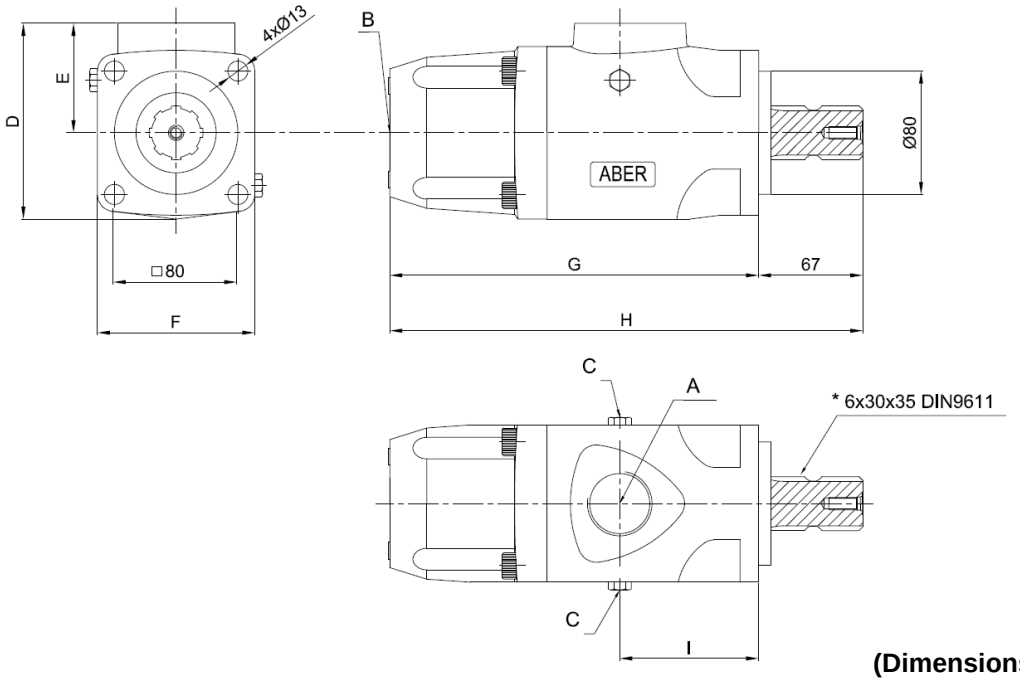
Main Dimensions



(Dimensions in mm)

Main Data							
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Operating pressure (bar) (up to)	250	250	250	250	250	250	250
Peak pressure (bar)	320	320	320	320	320	320	320
Rotation mín. (rpm)	200	200	200	200	200	200	200
Rotation máx. (rpm)	1500	1500	1500	1500	1500	1200	1200
Weight (kg)	12	12	13	13	16	16	21,5
Sense of Rotation	Bi-directional						
A-Oil inlet (BSP)	1''1/4	1''1/4	1''1/4	1''1/4	1''1/2	1''1/2	1''1/2
B-Oil Outlet (BSP)	3/4''	3/4''	3/4''	3/4''	1''	1''	1''
C	Oil drain plug						
D	125	125	125	125	148	148	152
E	69	69	69	69	72	72	80
F	102	102	102	102	118	118	142
G	240	240	240	240	259	259	270
H	307	307	307	307	326	326	337
I	90	90	90	90	118	118	134

How to order:
Example: Pump 32cm³, operating pressure up to 250 bar; peak pressure 320 bar, ref. BHZ_DA
➔ BHZ25319DA

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Diagram
Flow - Speed

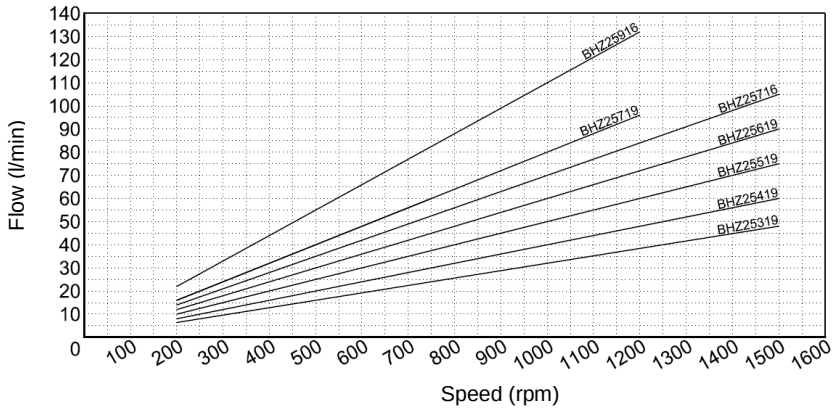
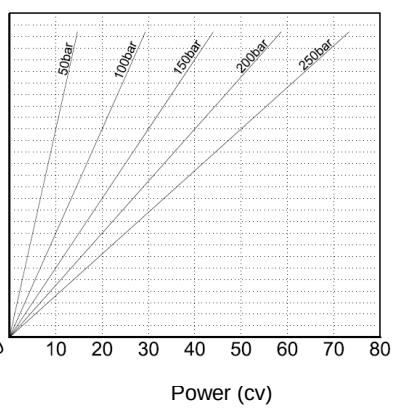


Diagram
Input Power - Flow – Pressure



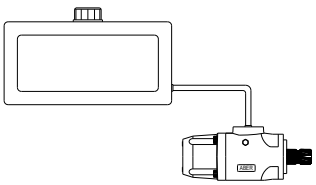
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4
100-120	2"
130-150	2"1/4

Outlet Hose				
Flow (l/min)	**Internal pipe diameter (inch)**			
30	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"
60	3/4"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"
80	1"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"
100	1"	1"	1"	1"
110	1"	1"	1"	1"
120	1"	1"	1"	1"
130	1"	1"	1"	1"
	50-100	100-150	150-200	200-300
	P (bar)			

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

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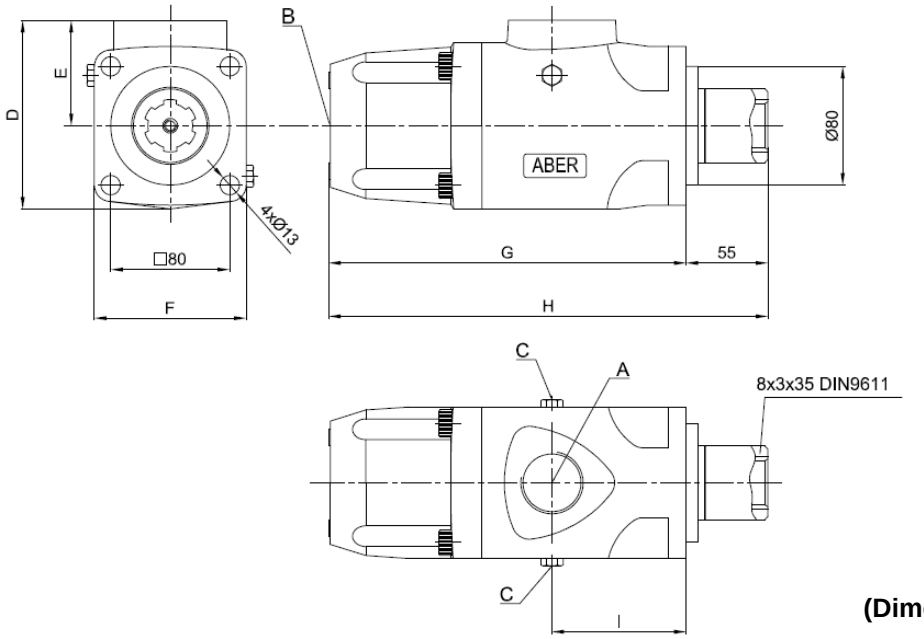
Main Dimensions



(Dimensions in mm)

Main Data	
Pump BHZ_DI	**25916**
Cylinder capacity (cm^3/Rot.)	110
Output at max. rotation (l/min)	132
Operating pressure (bar) (up to)	250
Peak pressure (bar)	320
Rotation mín. (rpm)	200
Rotation máx. (rpm)	1200
Weight (kg)	21,5
Sense of Rotation	Bi-directional
A-Oil inlet (BSP)	1”1/2
B-Oil Outlet (BSP)	1”
C	Oil drain Plug
D	152
E	80
F	142
G	270
H	325
I	134

How to order:
Example: Pump 110cm^3, operating pressure up to 250 bar; peak pressure 320 bar, ref. BHZ_DI ➔ BHZ25916DI

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Diagram
Flow - Speed

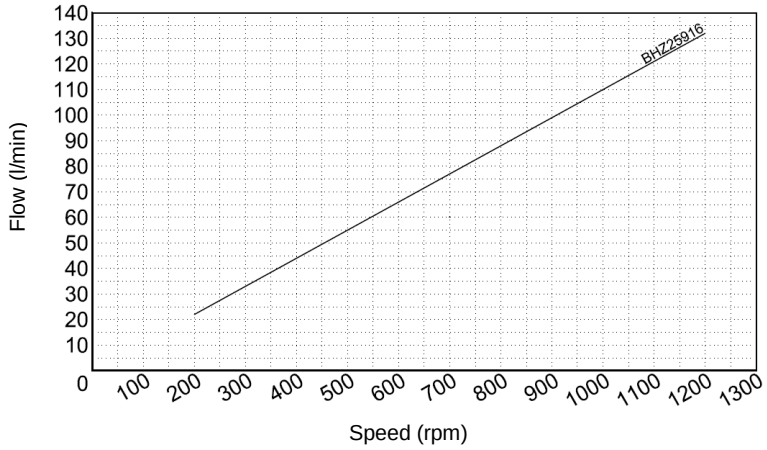
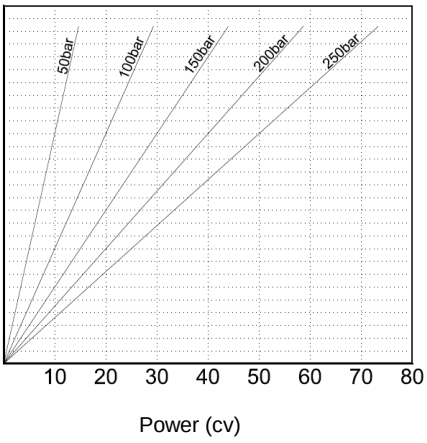


Diagram
Input Power - Flow – Pressure



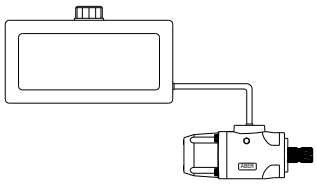
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4
100-120	2"
130-150	2"1/4

Outlet Hose				
Flow (l/min)	**Internal pipe diameter (inch)**			
30	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"
60	3/4"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"
80	1"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"
100	1"	1"	1"	1"
110	1"	1"	1"	1"
120	1"	1"	1"	1"
130	1"	1"	1"	1"
	50-100	100-150	150-200	200-300
	P (bar)			

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

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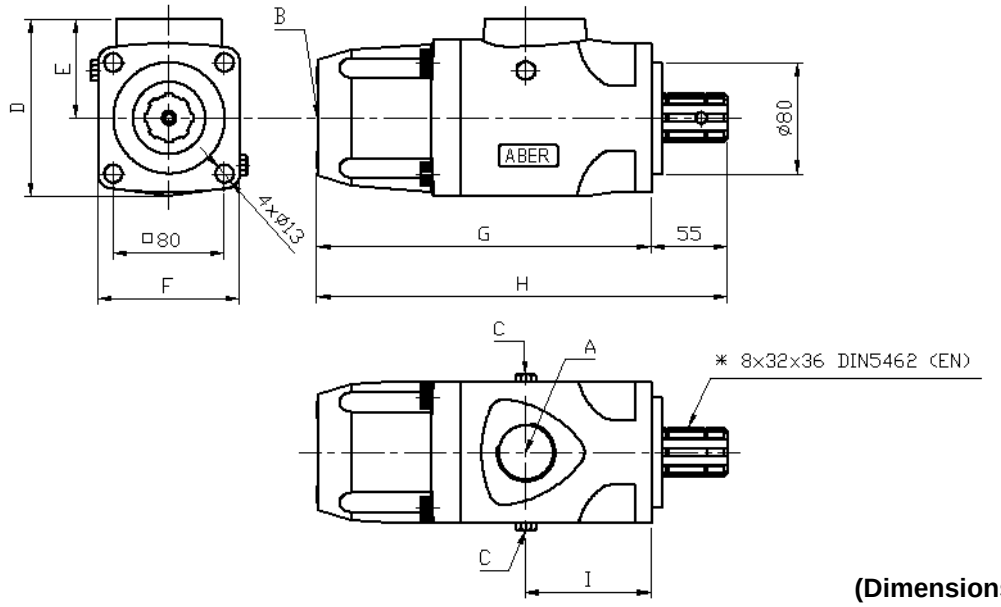
Main Dimensions



(Dimensions in mm)

Main Data			
Pumps BHT_EN	***25519***	***25619***	***22819***
Cylinder capacity (cm³/rot.)	50	60	80
Output at max. rotation (l/min)	75	90	108
Operating pressure (bar) (up to)	320	320	320
Peak pressure (bar)	370	370	370
Rotation Mín. (rpm)	200	200	200
Rotation Máx. (rpm)	1500	1500	1350
Weight (kg)	13	13	16
Sense of Rotation	Bi-directional		
A-Oil inlet (BSP)	1''1/4	1''1/4	1''1/2
B-Oil Outlet (BSP)	3/4''	3/4''	1''
C	Oil drain plug		
D	125	125	148
E	69	69	72
F	102	102	118
G	240	240	259
H	295	295	314
I	90	90	118

How to order:
Example: Pump 60cm³, operating pressure up to 320 bar; peak pressure 370 bar; ref. BHT with DIN 5462 (EN) ➔ BHT25619EN

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Diagram
Flow - Speed

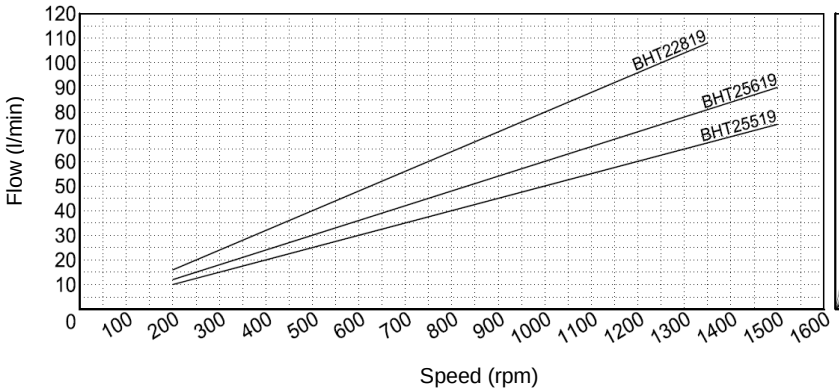
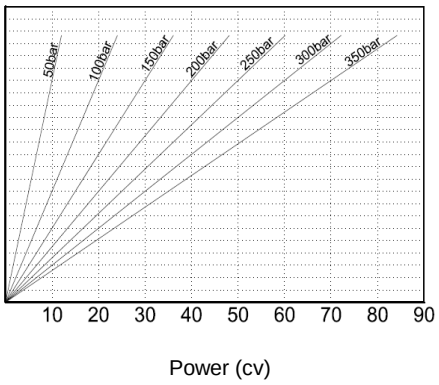


Diagram
Input Power - Flow – Pressure



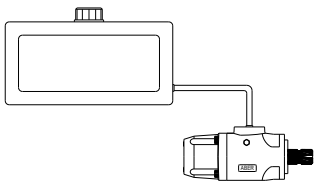
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4
100-120	2"

Outlet Hose					
Flow (l/min)	**Internal pipe diameter (inch)**				
30	1/2"	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"	1/2"
60	3/4"	5/8"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"	5/8"
80	1"	3/4"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"	3/4"
100	1"	1"	1"	1"	3/4"
110	1"	1"	1"	1"	1"
	50-100	100-150	150-200	200-300	300-350
	P (bar)				

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

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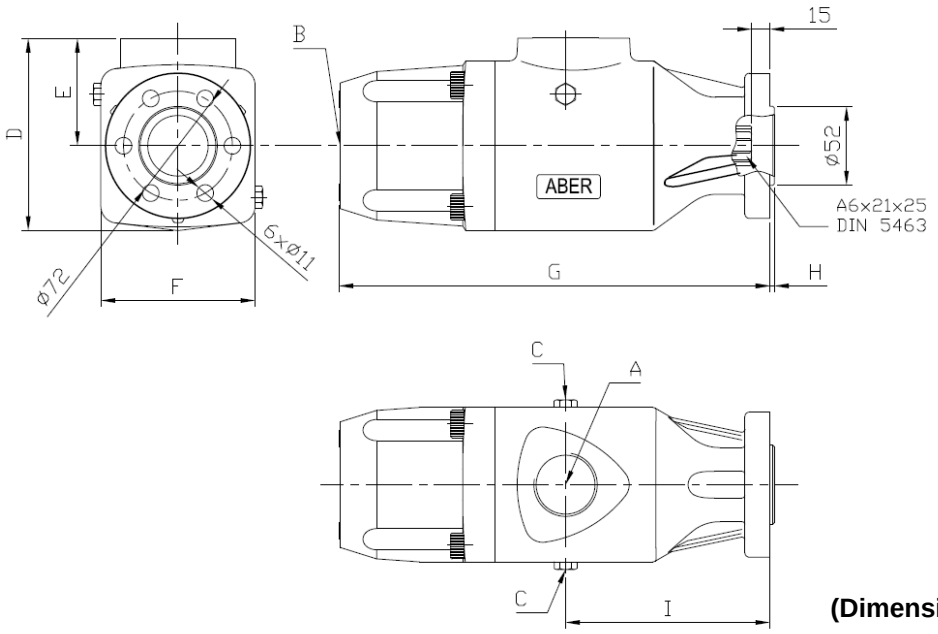
Main Dimensions



(Dimensions in mm)

Main Data			
Pumps BHT_UNI	***25519***	***25619***	***22819***
Cylinder capacity (cm³/rot.)	50	60	80
Output at max. rotation (l/min)	75	90	108
Operating pressure (bar) (up to)	320	320	320
Peak pressure (bar)	370	370	370
Rotation Mín. (rpm)	200	200	200
Rotation Máx. (rpm)	1500	1500	1350
Weight (kg)	14	14	18
Sense of Rotation	Bi-directional		
A-Oil inlet (BSP)	1''1/4	1''1/4	1''1/2
B-Oil Outlet (BSP)	3/4''	3/4''	1''
C	Oil drain plug		
D	125	125	148
E	69	69	72
F	102	102	118
G	285	285	302
H	3	3	3
I	135	135	161

How to order:
Example: Pump 60cm^3, operating pressure up to 320 bar; peak pressure 370 bar; ref. BHT with DIN 5463 (UNI) ➔ BHT25619UNI

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Diagram
Flow - Speed

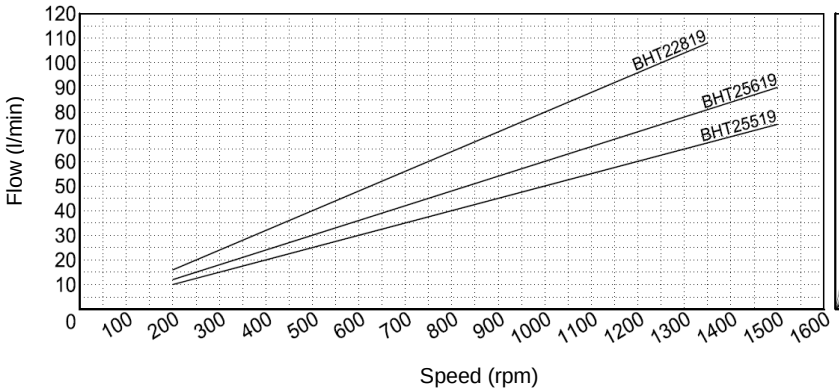
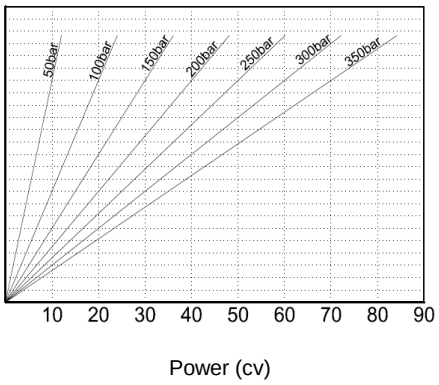


Diagram
Input Power - Flow – Pressure



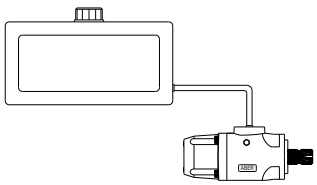
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4
100-120	2"

Outlet Hose					
Flow (l/min)	**Internal pipe diameter (inch)**				
30	1/2"	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"	1/2"
60	3/4"	5/8"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"	5/8"
80	1"	3/4"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"	3/4"
100	1"	1"	1"	1"	3/4"
110	1"	1"	1"	1"	1"
	50-100	100-150	150-200	200-300	300-350
	P (bar)				

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

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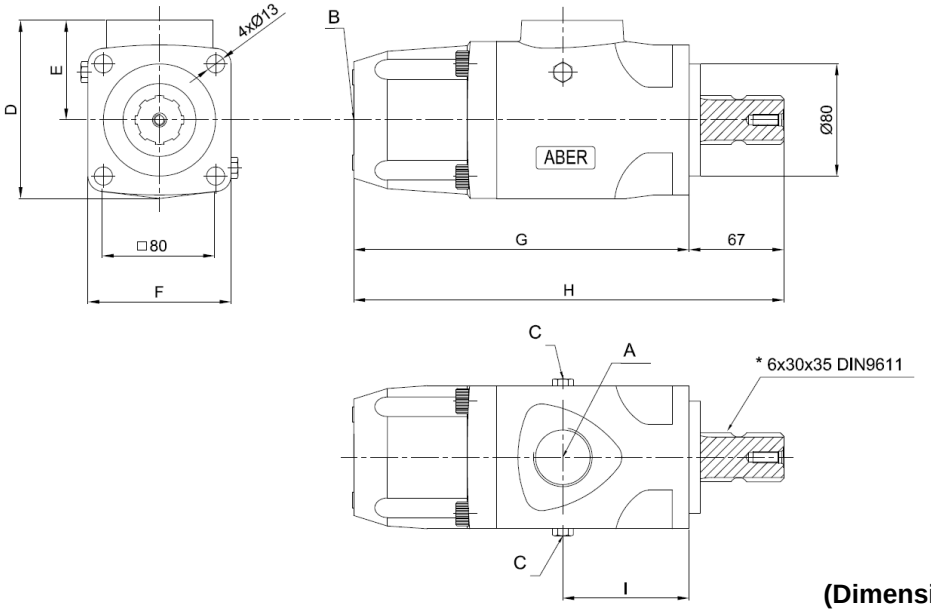
Main Dimensions



(Dimensions in mm)

Main Data			
Pumps BHT_DA	***25519***	***25619***	***22819***
Cylinder capacity (cm³/rot.)	50	60	80
Output at max. rotation (l/min)	75	90	108
Operating pressure (bar) (up to)	320	320	320
Peak pressure (bar)	370	370	370
Rotation Mín. (rpm)	200	200	200
Rotation Máx. (rpm)	1500	1500	1350
Weight (kg)	13	13	16
Sense of Rotation	Bi-directional		
A-Oil inlet (BSP)	1''1/4	1''1/4	1''1/2
B-Oil Outlet (BSP)	3/4''	3/4''	1''
C	Oil drain plug		
D	125	125	148
E	69	69	72
F	102	102	118
G	240	240	259
H	307	307	326
I	90	90	118

How to order:
Example: Pump 60cm³, operating pressure up to 320 bar; peak pressure 370 bar; ref. BHT with DIN 9611(DA) ➔ BHT25619DA

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Diagram
Flow - Speed

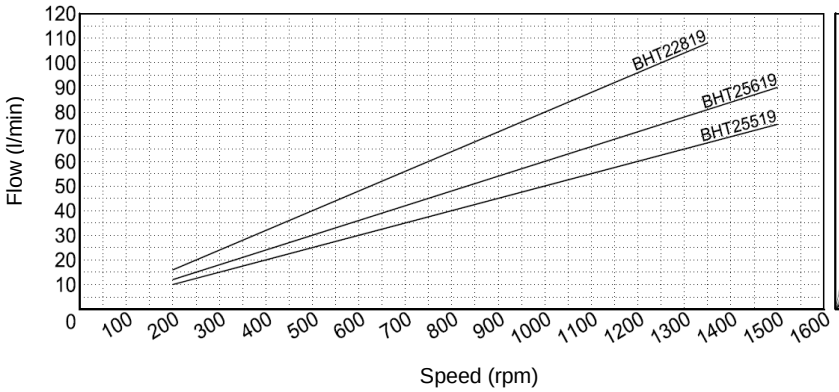
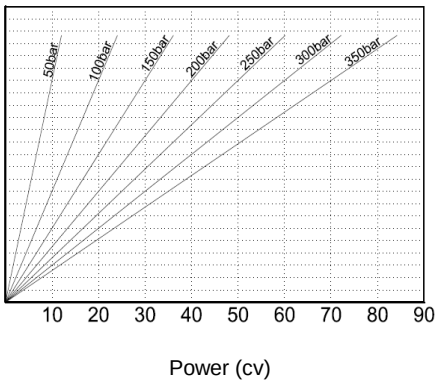


Diagram
Input Power - Flow – Pressure



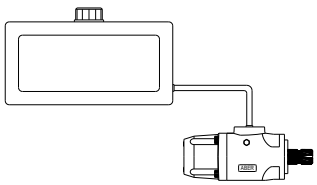
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4
100-120	2"

Outlet Hose					
Flow (l/min)	**Internal pipe diameter (inch)**				
30	1/2"	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"	1/2"
60	3/4"	5/8"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"	5/8"
80	1"	3/4"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"	3/4"
100	1"	1"	1"	1"	3/4"
110	1"	1"	1"	1"	1"
	50-100	100-150	150-200	200-300	300-350
	P (bar)				

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

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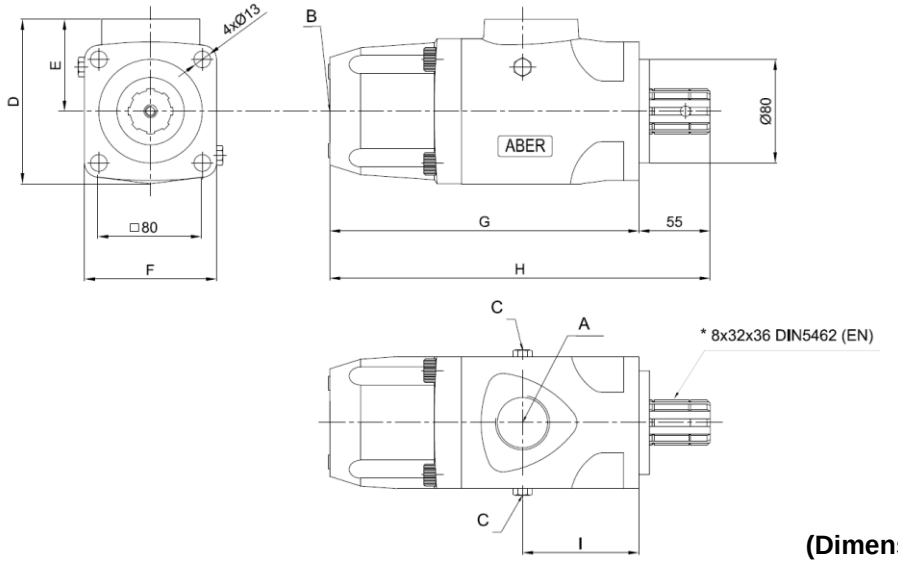
Main Dimensions



(Dimensions in mm)

Main Data

Pumps BHV_EN	21313	21316	21416	21516	21616	21716	21816	211113	25913
Cylinder capacity (cm^3/rot.)	14	19	25	32	40	45	60	80	86
Output at max. rotation (l/min)	35	38	50	64	80	90	96	128	129
Operating pressure (bar) (up to)	350	320	320	320	320	320	400	400	320
Peak pressure (bar)	400	370	370	370	370	370	450	450	370
Rotation mín. (rpm)	200	200	200	200	200	200	200	200	200
Rotation máx. (rpm)	2500	2000	2000	2000	2000	2000	1600	1600	1500
Weight (kg)	12.0	12.0	12.0	12.0	12.0	12.0	16.0	21.5	21.5
Sense of Rotation	Bi-directional								
A-Oil inlet (BSP)	1"1/4	1"1/4	1"1/4	1"1/4	1"1/4	1"1/4	1"1/2	1"1/2	1"1/2
B-Oil Outlet (BSP)	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"	1"
C	Oil drain plug								
D	125	125	125	125	125	125	148	152	152
E	69	69	69	69	69	69	72	80	80
F	102	102	102	102	102	102	118	142	142
G	240	240	240	240	240	240	259	270	270
H	295	295	295	295	295	295	314	325	325
I	90	90	90	90	90	90	118	134	134

How to order:
Example: Pump 19cm^3, operating pressure up to 320 bar; peak pressure 370 bar, ref. BHV_EN
➔ BHV21316EN

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Diagram
Flow - Speed

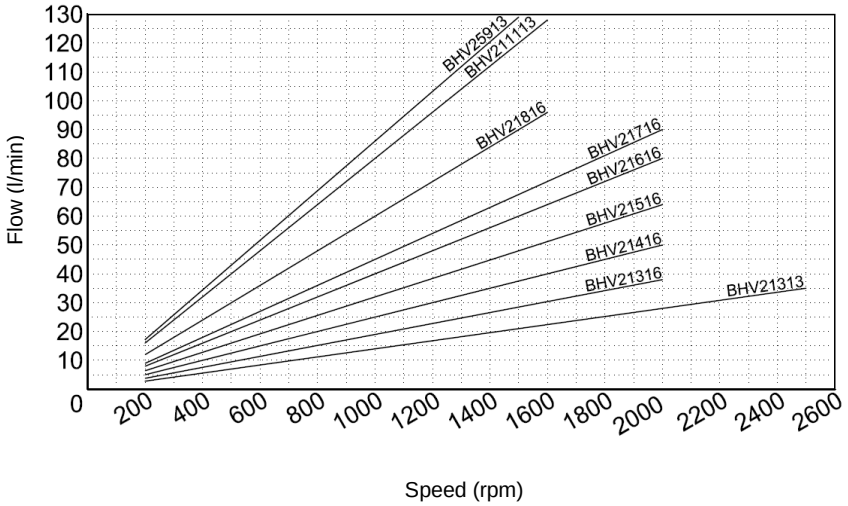
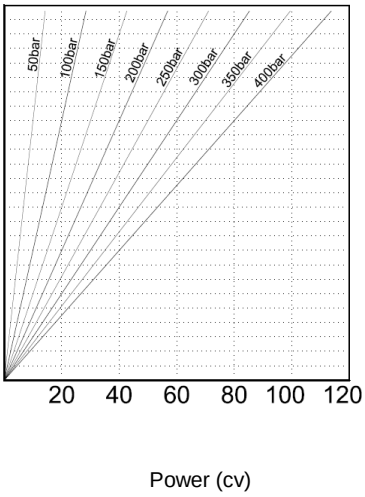


Diagram
Input Power - Flow – Pressure



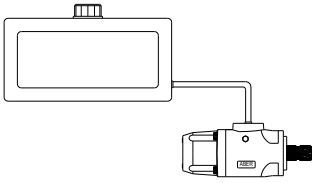
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4
100-120	2"
130-150	2"1/4

Outlet Hose					
Flow (l/min)	**Internal pipe diameter (inch)**				
30	1/2"	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"	1/2"
60	3/4"	5/8"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"	5/8"
80	1"	3/4"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"	3/4"
100	1"	1"	1"	1"	3/4"
110	1"	1"	1"	1"	1"
120	1"	1"	1"	1"	1"
130	1"	1"	1"	1"	1"
	50-100	100-150	150-200	200-300	300-400
	P (bar)				

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

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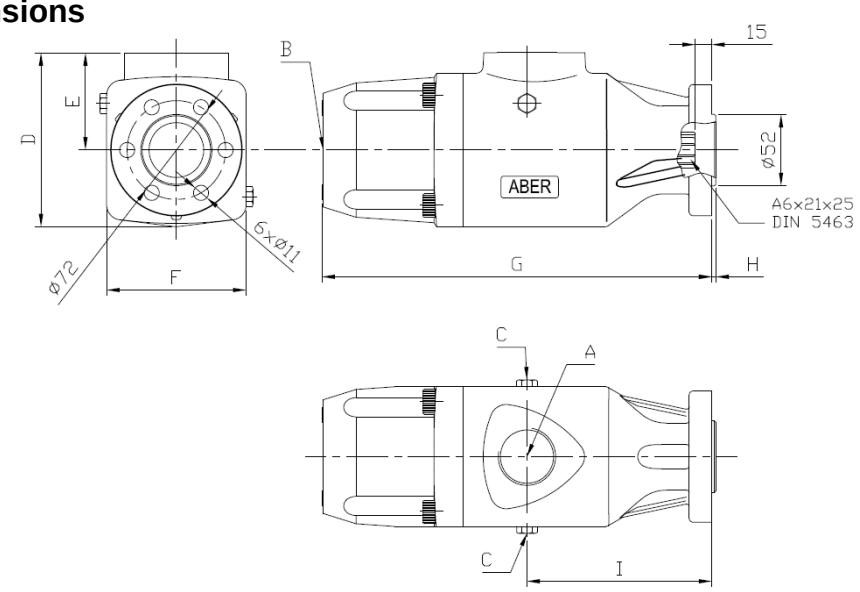
CTI BHV_EN 1306- 6

Main Dimensions



(Dimensions in mm)

Main Data									
Pumps BHV_UNI	**21313**	**21316**	**21416**	**21516**	**21616**	**21716**	**21816**	**211113**	**25913**
Cylinder capacity (cm^3/rot.)	14	19	25	32	40	45	60	80	86
Output at max. rotation (l/min)	35	38	50	64	80	90	96	128	129
Operating pressure (bar) (up to)	350	320	320	320	320	320	400	400	320
Peak pressure (bar)	400	370	370	370	370	370	450	450	370
Rotation mín. (rpm)	200	200	200	200	200	200	200	200	200
Rotation máx. (rpm)	2500	2000	2000	2000	2000	2000	1600	1600	1500
Weight (kg)	13	13	13	13	13	13	18	23	22
Sense of Rotation	Bi-directional								
A-Oil inlet (BSP)	1"1/4	1"1/4	1"1/4	1"1/4	1"1/4	1"1/4	1"1/2	2"	2"
B-Oil Outlet (BSP)	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"	1"
C	Oil drain plug								
D	125	125	125	125	125	125	148	152	152
E	69	69	69	69	69	69	72	80	80
F	102	102	102	102	102	102	118	142	142
G	285	285	285	285	285	285	302	298	298
H	3	3	3	3	3	3	3	5	5
I	135	135	135	135	135	135	161	166	166

How to order:
Example: Pump 19cm^3, operating pressure up to 320 bar; peak pressure 370 bar, ref. BHV _UNI
➔ BHV21316UNI

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Diagram
Flow - Speed

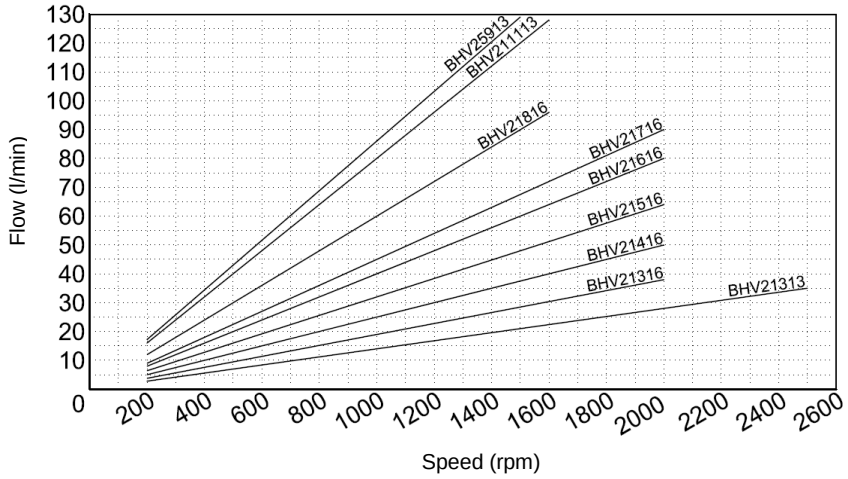
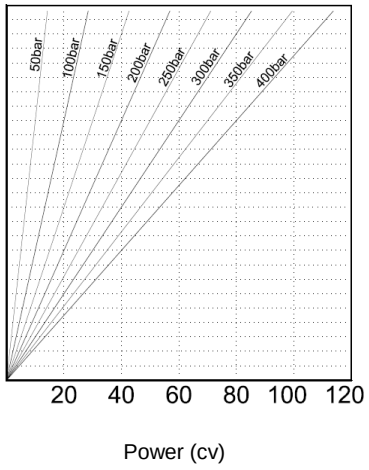


Diagram
Input Power - Flow – Pressure



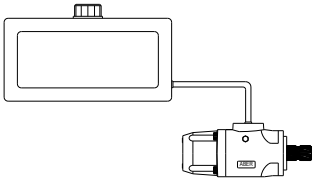
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4
100-120	2"
130-150	2"1/4

Outlet Hose					
Flow (l/min)	**Internal pipe diameter (inch)**				
30	1/2"	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"	1/2"
60	3/4"	5/8"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"	5/8"
80	1"	3/4"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"	3/4"
100	1"	1"	1"	1"	3/4"
110	1"	1"	1"	1"	1"
120	1"	1"	1"	1"	1"
130	1"	1"	1"	1"	1"
	50-100	100-150	150-200	200-300	300-400
	P (bar)				

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

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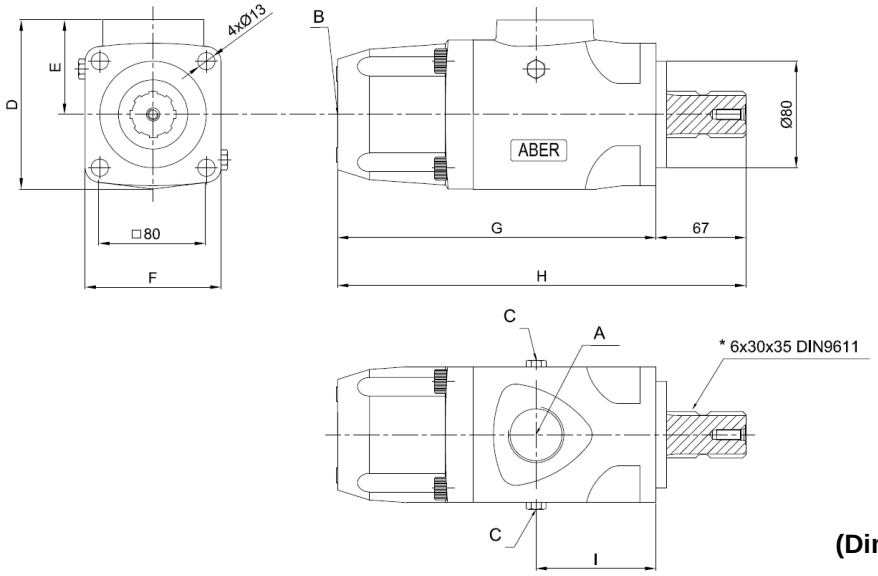
Main Dimensions



(Dimensions in mm)

Main Data									
Pumps BHV_DA	**21313**	**21316**	**21416**	**21516**	**21616**	**21716**	**21816**	**211113**	**25913**
Cylinder capacity (cm^3/rot.)	14	19	25	32	40	45	60	80	86
Output at max. rotation (l/min)	35	38	50	64	80	90	96	128	129
Operating pressure (bar) (up to)	350	320	320	320	320	320	400	400	320
Peak pressure (bar)	400	370	370	370	370	370	450	450	370
Rotation mín. (rpm)	200	200	200	200	200	200	200	200	200
Rotation máx. (rpm)	2500	2000	2000	2000	2000	2000	1600	1600	1500
Weight (kg)	12.0	12.0	12.0	12.0	12.0	12.0	16.0	21.5	21.5
Sense of Rotation	Bi-directional								
A-Oil inlet (BSP)	1''1/4	1''1/4	1''1/4	1''1/4	1''1/4	1''1/4	1''1/2	1''1/2	1''1/2
B-Oil Outlet (BSP)	3/4''	3/4''	3/4''	3/4''	3/4''	3/4''	1''	1''	1''
C	Oil drain plug								
D	125	125	125	125	125	125	148	152	152
E	69	69	69	69	69	69	72	80	80
F	102	102	102	102	102	102	118	142	142
G	240	240	240	240	240	240	259	270	270
H	307	307	307	307	307	307	326	337	337
I	90	90	90	90	90	90	118	134	134

How to order:
Example: Pump 19cm^3, operating pressure up to 320 bar; peak pressure 370 bar, ref. BHV_DA
➔ BHV21316DA

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Diagram
Flow - Speed

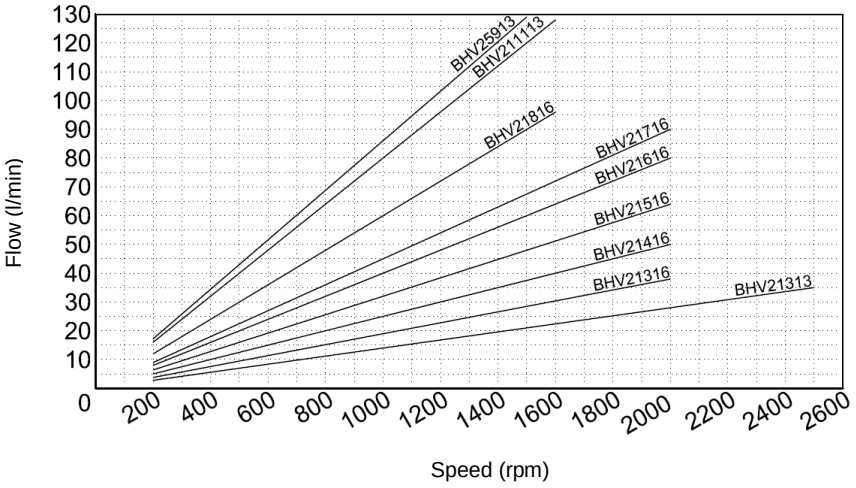
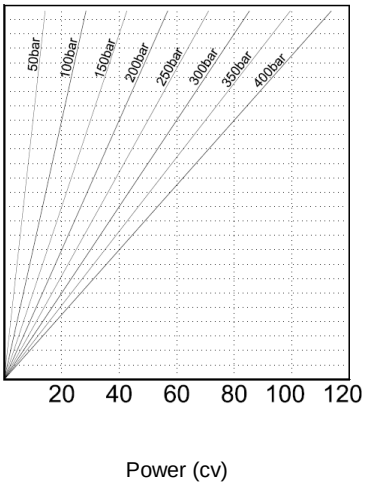


Diagram
Input Power - Flow – Pressure



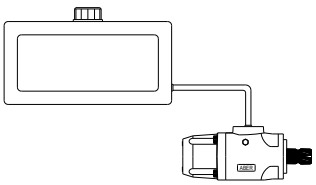
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4
100-120	2"
130-150	2"1/4

Outlet Hose					
Flow (l/min)	**Internal pipe diameter (inch)**				
30	1/2"	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"	1/2"
60	3/4"	5/8"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"	5/8"
80	1"	3/4"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"	3/4"
100	1"	1"	1"	1"	3/4"
110	1"	1"	1"	1"	1"
120	1"	1"	1"	1"	1"
130	1"	1"	1"	1"	1"
	50-100	100-150	150-200	200-300	300-400
	P (bar)				

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

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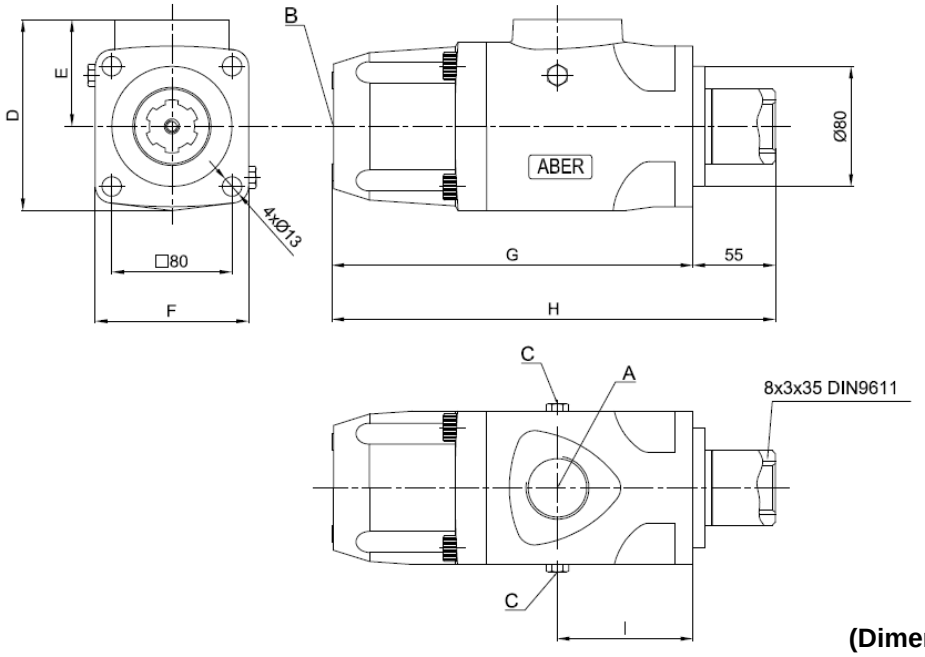
Main Dimensions



(Dimensions in mm)

Main Data		
Pumps BHV_DI	**211113**	**25913**
Cylinder capacity (cm^3/rot.)	80	86
Output at max. rotation (l/min)	128	129
Operating pressure (bar) (up to)	400	320
Peak pressure (bar)	450	370
Rotation mín. (rpm)	200	200
Rotation máx. (rpm)	1600	1500
Weight (kg)	21.5	21.5
Sense of Rotation	Bi-directional	
A-Oil inlet (BSP)	1"1/2	1"1/2
B-Oil Outlet (BSP)	1"	1"
C	Oil drain plug	
D	152	152
E	80	80
F	142	142
G	270	270
H	325	325
I	134	134

How to order:
Example: Pump 86cm^3, operating pressure up to 320 bar; peak pressure 370 bar, ref. BHV_DI
➔ BHV25913DI

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Diagram
Flow - Speed

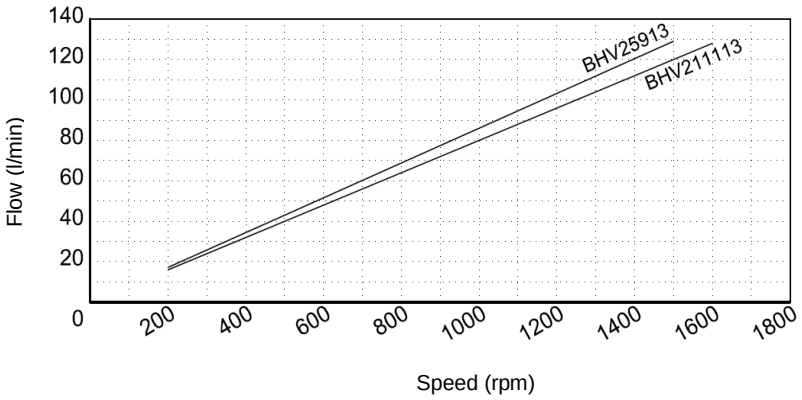
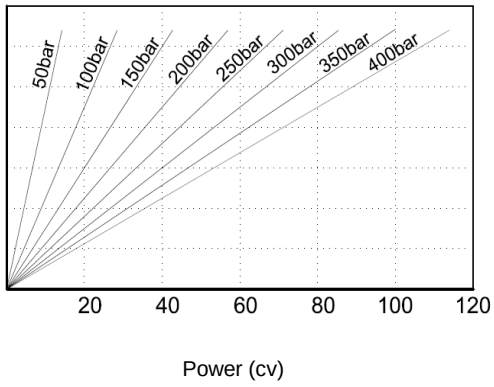


Diagram
Input Power - Flow – Pressure



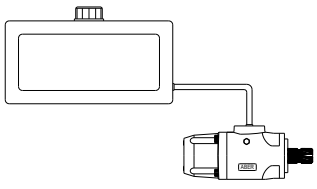
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4
100-120	2"
130-150	2"1/4

Outlet Hose					
Flow (l/min)	**Internal pipe diameter (inch)**				
30	1/2"	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"	1/2"
60	3/4"	5/8"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"	5/8"
80	1"	3/4"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"	3/4"
100	1"	1"	1"	1"	3/4"
110	1"	1"	1"	1"	1"
120	1"	1"	1"	1"	1"
130	1"	1"	1"	1"	1"
	50-100	100-150	150-200	200-300	300-400
	P (bar)				

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

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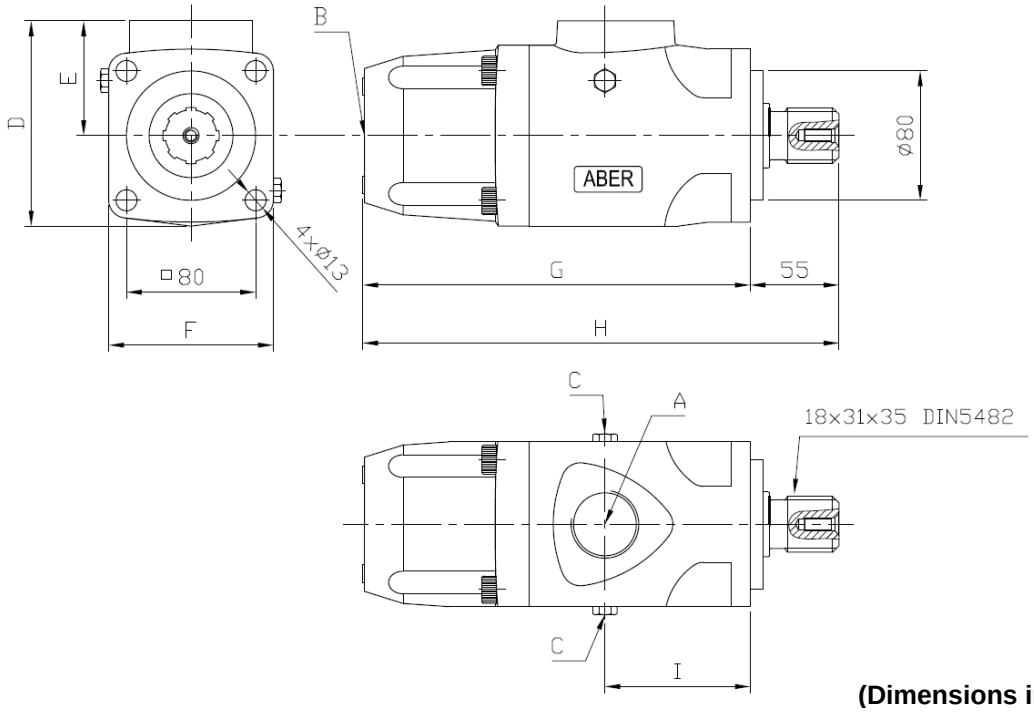
Main Dimensions



(Dimensions in mm)

Main Data							
Pumps BHV_DM	**21313**	**21316**	**21416**	**21516**	**21616**	**21716**	**21816**
Cylinder capacity (cm^3/rot.)	14	19	25	32	40	45	60
Output at max. rotation (l/min)	35	38	50	64	80	90	96
Operating pressure (bar) (up to)	350	320	320	320	320	320	400
Peak pressure (bar)	400	370	370	370	370	370	450
Rotation mín. (rpm)	200	200	200	200	200	200	200
Rotation máx. (rpm)	2500	2000	2000	2000	2000	2000	1600
Weight (kg)	12	12	12	12	12	12	16
Sense of Rotation	Bi-directional						
A-Oil inlet (BSP)	1"1/4	1"1/4	1"1/4	1"1/4	1"1/4	1"1/4	1"1/2
B-Oil Outlet (BSP)	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1"
C	Oil drain plug						
D	125	125	125	125	125	125	148
E	69	69	69	69	69	69	72
F	102	102	102	102	102	102	118
G	240	240	240	240	240	240	259
H	295	295	295	295	295	295	314
I	90	90	90	90	90	90	134

How to order:
Example: Pump 19cm^3, operating pressure up to 320 bar; peak pressure 370 bar, ref. BHV_DM
➔ BHV21316DM

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Diagram
Flow - Speed

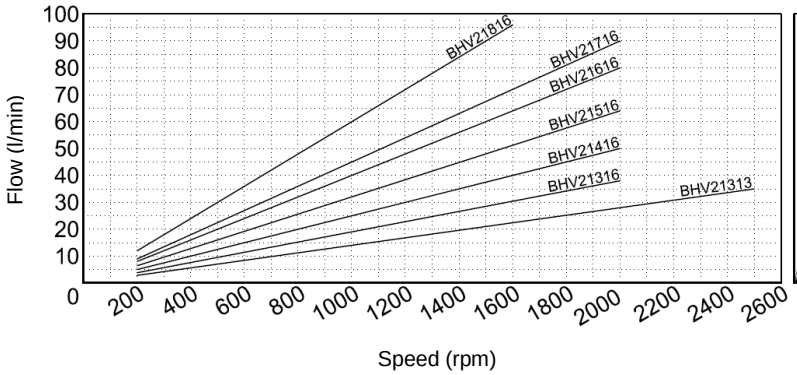
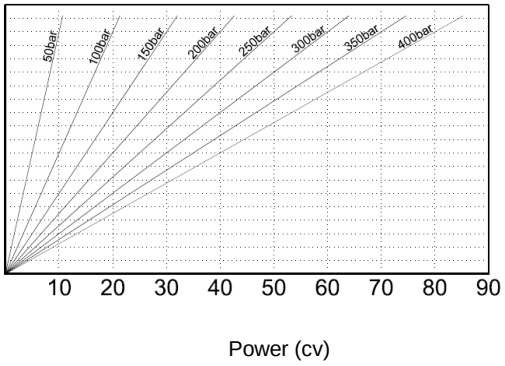


Diagram
Input Power - Flow – Pressure



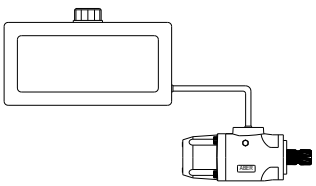
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4
100-120	2"

Outlet Hose					
Flow (l/min)	**Internal pipe diameter (inch)**				
30	1/2"	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"	1/2"
60	3/4"	5/8"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"	5/8"
80	1"	3/4"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"	3/4"
100	1"	1"	1"	1"	3/4"
	50-100	100-150	150-200	200-300	300-400
	P (bar)				

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

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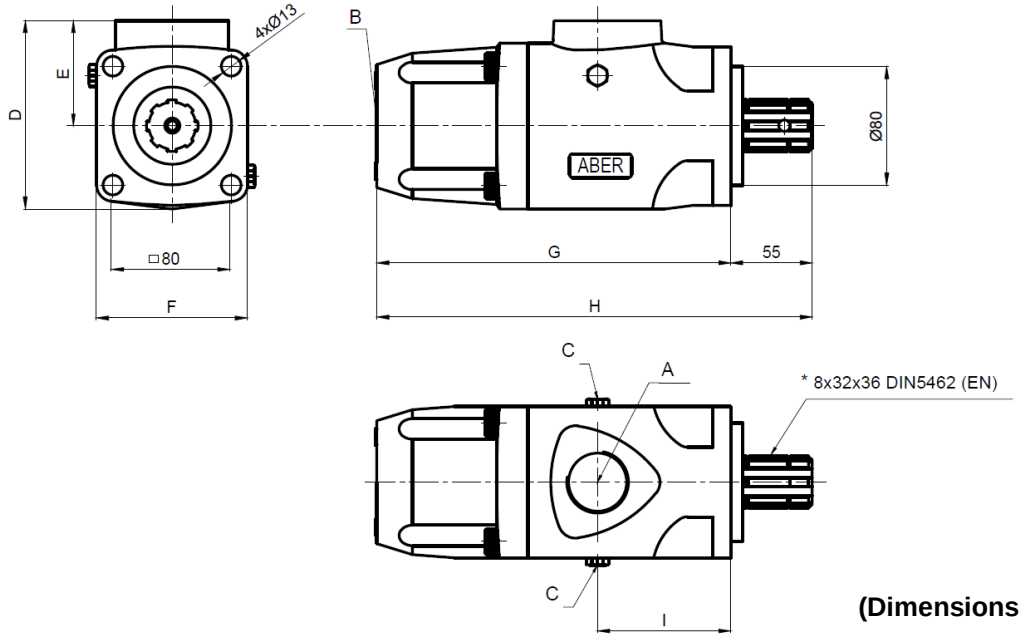
Main Dimensions



(Dimensions in mm)

Main Data	
Pump BHS_EN	**21716**
Displacement (cm³/rot.)	52
Output at max. rotation (l/min)	83
Operating pressure (bar) (up to)	400
Peak pressure (bar)	450
Rotation mín. (rpm)	200
Rotation máx. (rpm)	1600
Weight (kg)	16
Sense of Rotation	Bi-directional
A-Oil inlet (BSP)	1”1/2
B-Oil Outlet (BSP)	1"
C	Oil drain Plug
D	148
E	72
F	118
G	259
H	314
I	118

How to order:
Example: Pump 52cm³, operating pressure up to 400 bar; peak pressure 450 bar, ref. BHS with DIN 5462 (EN) ➔ BHS21716EN

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Diagram
Flow - Speed

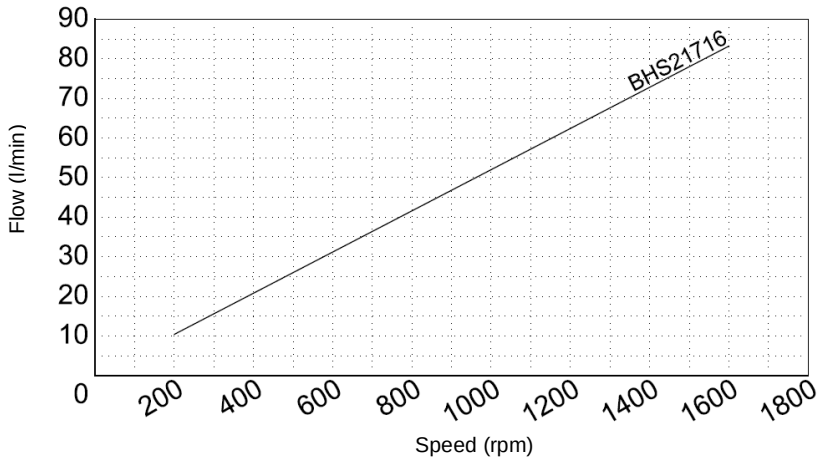
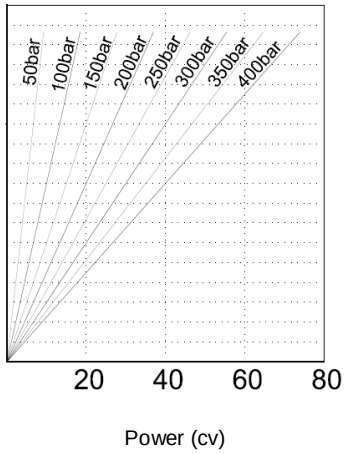


Diagram
Input Power - Flow – Pressure



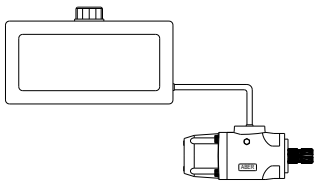
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4

Outlet Hose					
Flow (l/min)	**Internal pipe diameter (inch)**				
30	1/2"	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"	1/2"
60	3/4"	5/8"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"	5/8"
80	1"	3/4"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"	3/4"
	50-100	100-150	150-200	200-300	300-400
	P (bar)				

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

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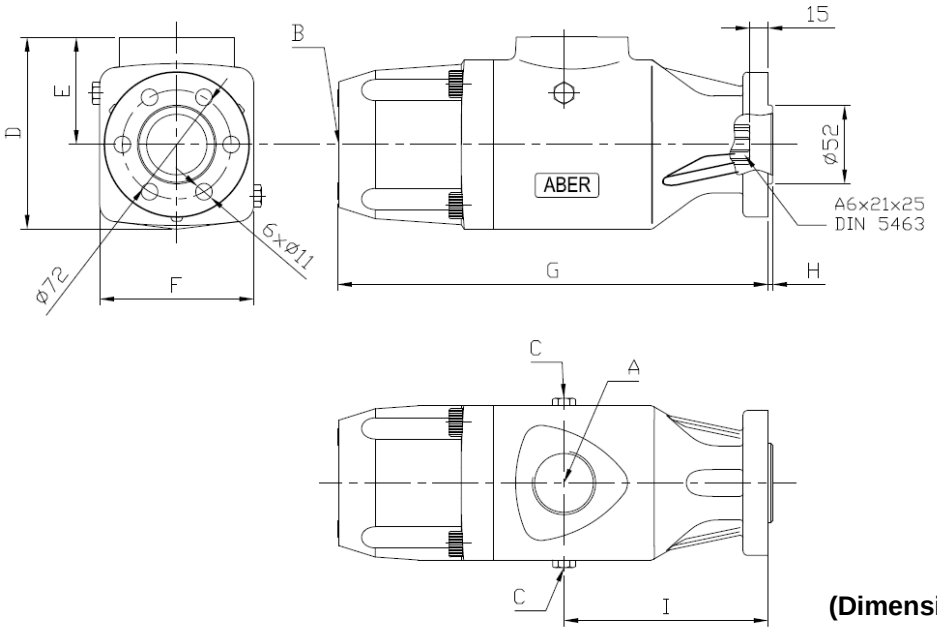
Main Dimensions



(Dimensions in mm)

Main Data	
Pump BHS_UNI	**21716**
Displacement (cm³/rot.)	52
Output at max. rotation (l/min)	83
Operating pressure (bar) (up to)	400
Peak pressure (bar)	450
Rotation mín. (rpm)	200
Rotation máx. (rpm)	1600
Weight (kg)	16
Sense of Rotation	Bi-directional
A-Oil inlet (BSP)	1"1/2
B-Oil Outlet (BSP)	1"
C	Oil drain Plug
D	148
E	72
F	118
G	302
H	3
I	161

How to order:
Example: Pump 52cm³, operating pressure up to 400 bar; peak pressure 450 bar, ref. BHS with DIN 5463 (UNI) ➔ BHS21716UNI

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Diagram
Flow - Speed

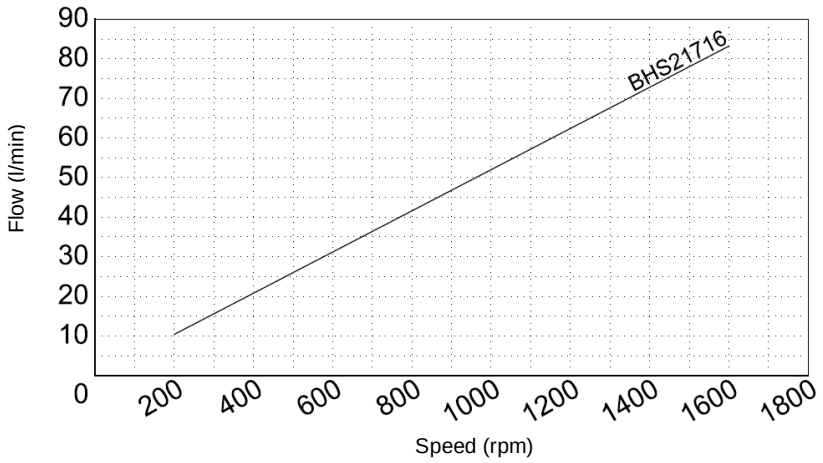
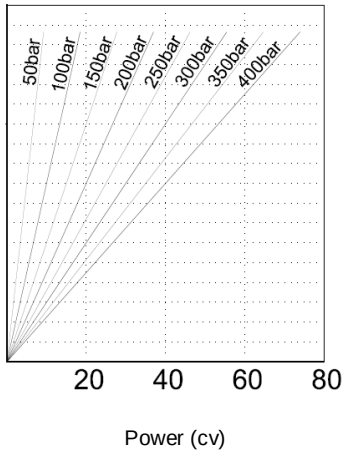


Diagram
Input Power - Flow – Pressure



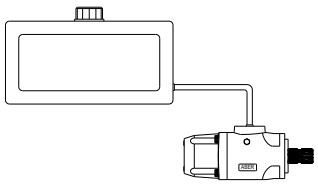
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4

Outlet Hose					
Flow (l/min)	**Internal pipe diameter (inch)**				
30	1/2"	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"	1/2"
60	3/4"	5/8"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"	5/8"
80	1"	3/4"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"	3/4"
	50-100	100-150	150-200	200-300	300-400
	P (bar)				

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

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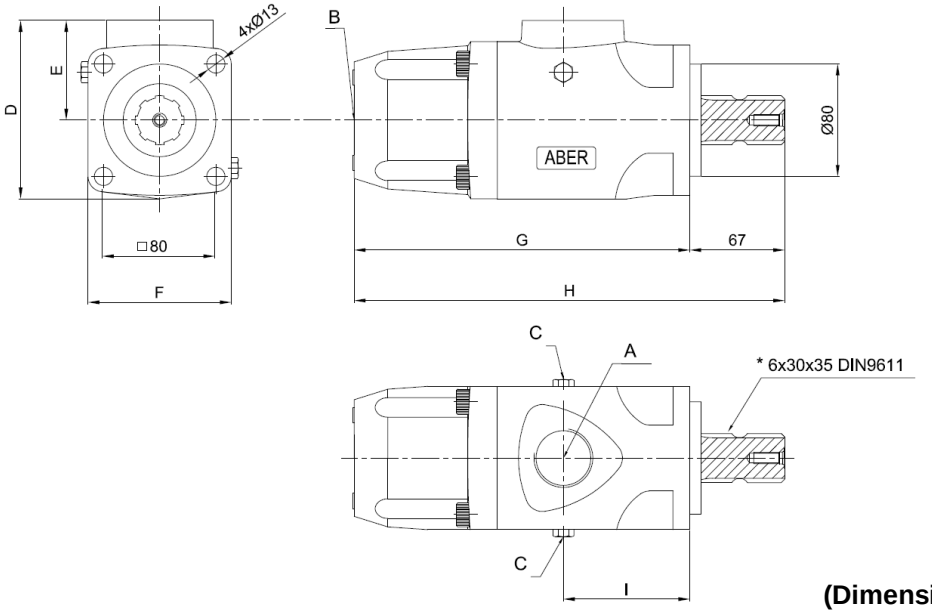
Main Dimensions



(Dimensions in mm)

Main Data	
Pump BHS_DA	**21716**
Displacement (cm³/rot.)	52
Output at max. rotation (l/min)	83
Operating pressure (bar) (up to)	400
Peak pressure (bar)	450
Rotation mín. (rpm)	200
Rotation máx. (rpm)	1600
Weight (kg)	16
Sense of Rotation	Bi-directional
A-Oil inlet (BSP)	1”1/2
B-Oil Outlet (BSP)	1"
C	Oil drain Plug
D	148
E	72
F	118
G	259
H	326
I	118

How to order:
Example: Pump 52cm^3, operating pressure up to 400 bar; peak pressure 450 bar, ref. BHS with DIN 9611 (DA) ➔ BHS21716DA

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Diagram
Flow - Speed

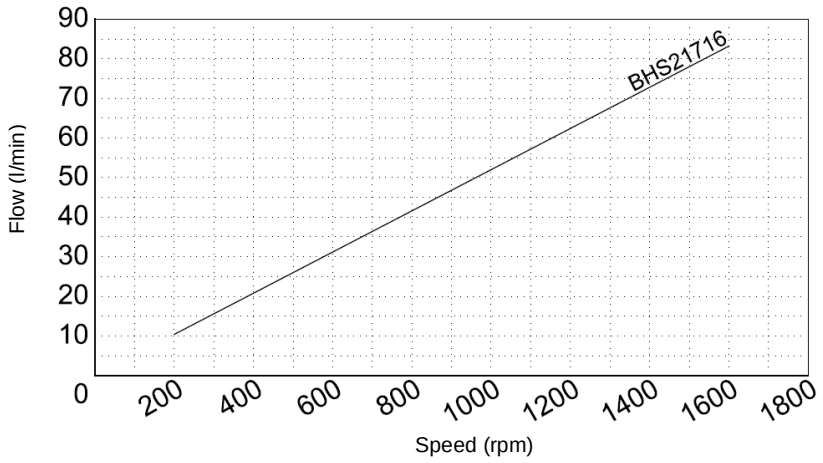
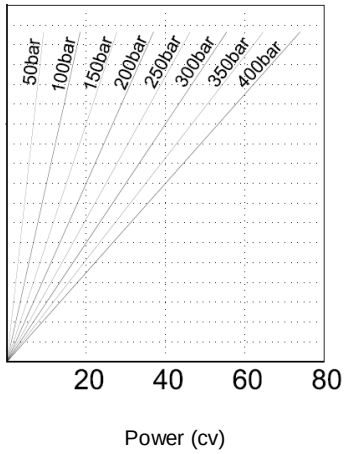


Diagram
Input Power - Flow – Pressure



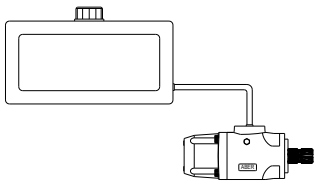
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4

Outlet Hose					
Flow (l/min)	**Internal pipe diameter (inch)**				
30	1/2"	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"	1/2"
60	3/4"	5/8"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"	5/8"
80	1"	3/4"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"	3/4"
	50-100	100-150	150-200	200-300	300-400
	P (bar)				

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

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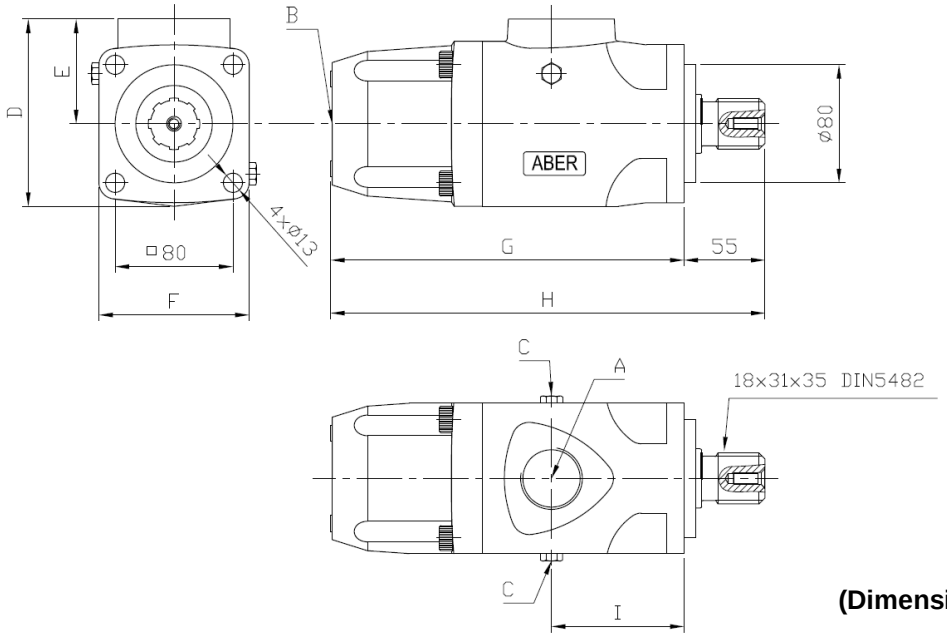
Main Dimensions



(Dimensions in mm)

Main Data	
Pump BHS_DM	**21716**
Displacement (cm³/rot.)	52
Output at max. rotation (l/min)	83
Operating pressure (bar) (up to)	400
Peak pressure (bar)	450
Rotation mín. (rpm)	200
Rotation máx. (rpm)	1600
Weight (kg)	16
Sense of Rotation	Bi-directional
A-Oil inlet (BSP)	1”1/2
B-Oil Outlet (BSP)	1"
C	Oil drain Plug
D	148
E	72
F	118
G	259
H	314
I	118

How to order:
Example: Pump 52cm³, operating pressure up to 400 bar; peak pressure 450 bar, ref. BHS with DIN 5482 (DM) ➔ BHS21716DM

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Diagram
Flow - Speed

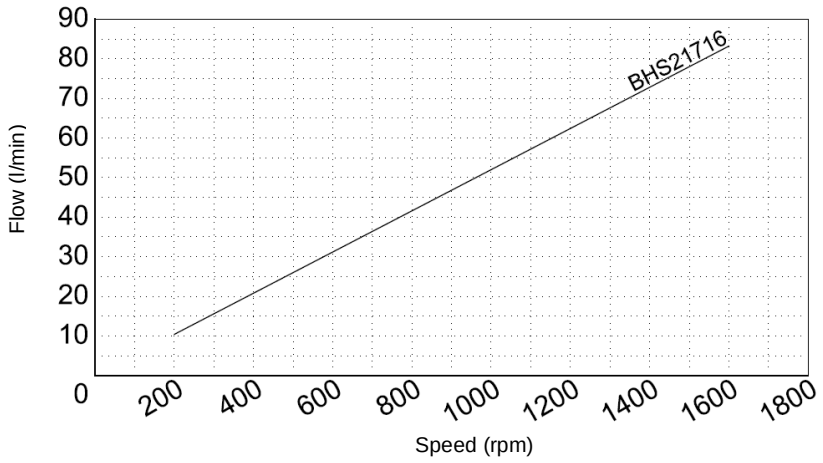
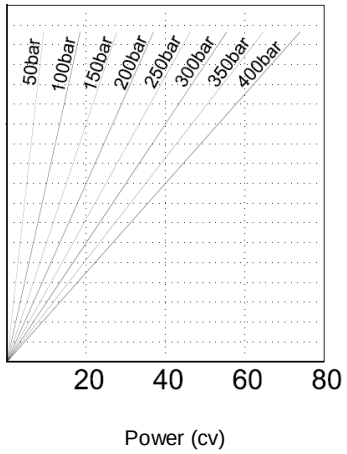


Diagram
Input Power - Flow – Pressure



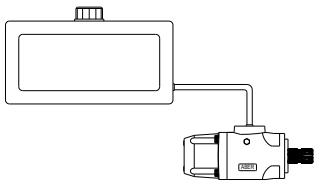
Hose dimensions

Inlet Hose	
Flow (l/min)	**Internal pipe diameter (inch)**
30-40	1"1/4
50-60	1"1/2
70-90	1"3/4

Outlet Hose					
Flow (l/min)	**Internal pipe diameter (inch)**				
30	1/2"	1/2"	1/2"	1/2"	1/2"
40	5/8"	1/2"	1/2"	1/2"	1/2"
50	5/8"	5/8"	5/8"	1/2"	1/2"
60	3/4"	5/8"	5/8"	5/8"	5/8"
70	1"	3/4"	3/4"	5/8"	5/8"
80	1"	3/4"	3/4"	3/4"	3/4"
90	1"	1"	1"	3/4"	3/4"
	50-100	100-150	150-200	200-300	300-400
	P (bar)				

IMPORTANT NOTES:

- ✓ Other axis available, please consult “Axel options”
- ✓ Diameter of inlet pipes lower than indicated in our technical catalogues as well as a poor sealing can cause cavitation phenomenon to occur, thereby deteriorating the pump
- ✓ Keep up the deposit above pump level
- ✓ Used always return filters. We recommend filters with mesh equal to or lower than 25 μm
- ✓ The connection of inlet pipes in the pump, can de done by threading or flange and the sealing by orring
- ✓ Use a good quality mineral hydraulic-oil with viscosity at operating temperature between 20 and 46 cSt
- ✓ Fill the oil tank to 85% of its maximum capacity (the remainder 15% must not have oil)



Keep up the deposit above pump level

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