

SPECIAL  
VERSION

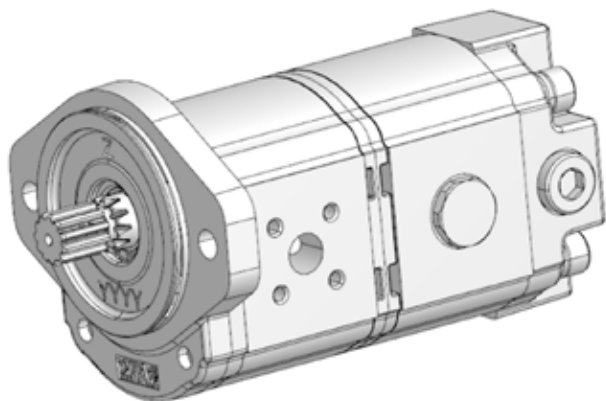


## MULTIPLE PUMPS WITH UNLOADING VALVE DIRECTLY FITTED IN THE REAR COVER

Unloading valve controls the flow rate to the main circuit according to the working pressure.

In case of double pump, if the working pressure is lower than the valve setting, the main circuit is fed by the flow of both sections of the pump.

If the working pressure is higher than the valve setting, only the first section of the pump will feed the main circuit.



- Reduces the absorbed torque over the valve setting value
- Common inlet / common outlet
- Special ports availability

General data, drive shafts, mounting flange and ports are the same of standard product.

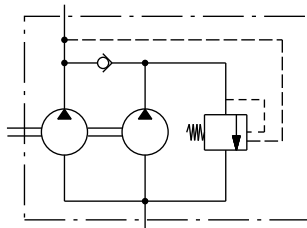
### Availability

- Incorporated outboard bearing
- Version L 101 (high strength body)

### FIXED SETTING VALVE

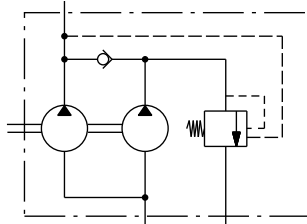
**VS (...)**

Internal drain.



**VSE (...)**

External drain.



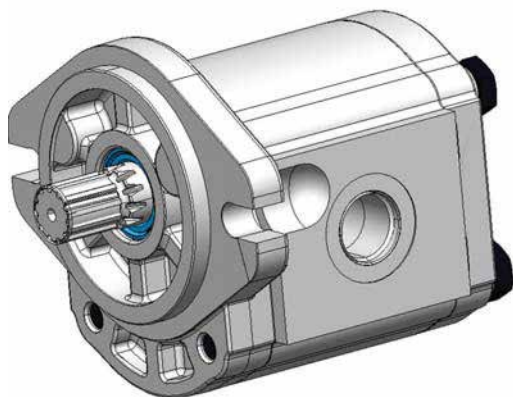
( ) = Fixed setting pressure value in bar

### (...) Fixed setting pressure value

bar	psi
35	508
40	580
50	725
60	870
70	1015
80	1160
100	1450
120	1740
125	1813
140	2030
150	2175
160	2320
175	2538
180	2610
190	2755
206	2987
210	3045
230	3335
250	3625
260	3770
280	4060
300	4350

Valves are sized to control a Q=40 l/min (10.57 US gpm).  
For different setting values, please consult our technical sales department.

## HYDRAULIC GEAR PUMPS AND MOTORS WITH HIGH STRENGTH BODY



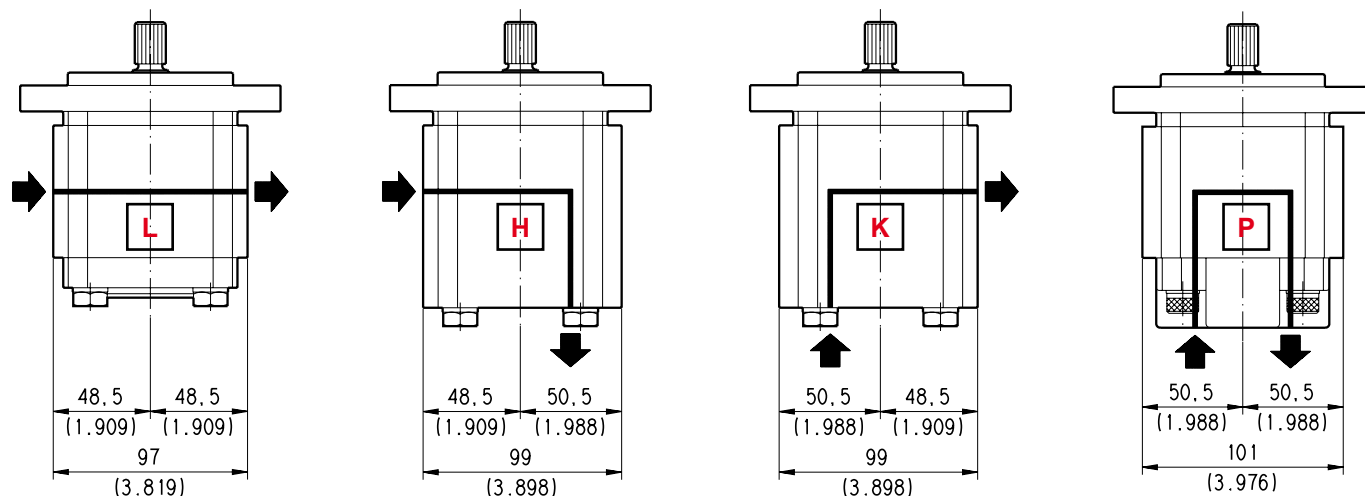
- Long service life in heavy duty condition
- Larger inlet thread ports with nominal dimension until 1"  
Reduction of cavitation problem.
- More choices of type and ports position

General data, drive shafts, mounting flange and ports are the same of standard product.

### Availability

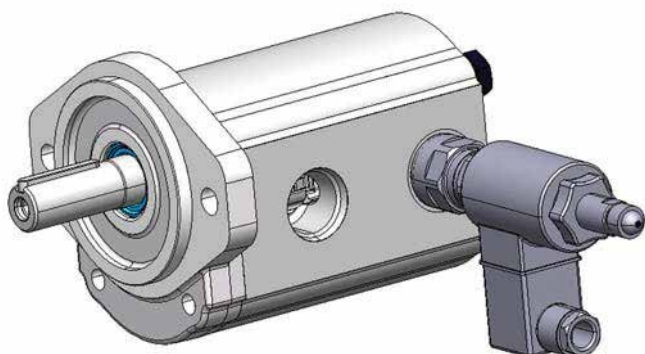
- Single pumps, multiple pumps, and motors
- Incorporated outboard bearing
- Version 2P (two pieces construction)
- Double pumps PLP20/10 Twin (only one body for two pumps)

### Ports position IN/OUT



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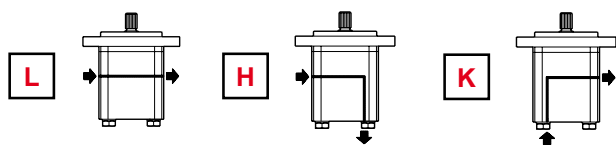
## ALUMINIUM HYDRAULIC GEAR PUMPS AND MOTORS IN TWO PIECES CONSTRUCTION



- **Solve different problem of O.E.M.s**
- **Price reduction compared three pieces construction**
- **Less parts**  
Reduced the possibility of oil leakage
- **More choices of type and ports position**
- **Special ports availability**
- **Valve directly fitted on the body**  
More flexibility for valve mounting position

General data, drive shafts, mounting flange and ports are the same of standard product.

### Ports position IN/OUT



### Availability

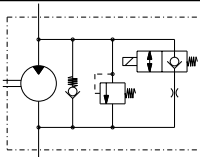
- Single pumps, motors, and rear sections of multiple pumps
- Incorporated outboard bearing
- Version L 101 (high strength body)

### Valve availability

#### ELECTRIC VALVE FOR MOTORS

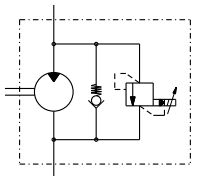
**EC08..**

By-pass valve normally closed with max. pressure relief valve and anti-cavitation valve.



**DBVSA..**

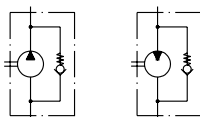
Proportional relief valve and anti-cavitation valve.



#### CHECK VALVE

**V8**

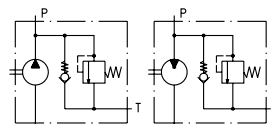
Anti-cavitation valve.



#### MAX PRESSURE RELIEF VALVE

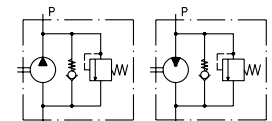
**VPEF..**

Fixed setting with external drain.



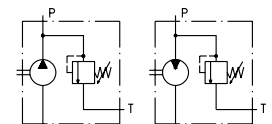
**VPIF..**

Fixed setting with internal drain.



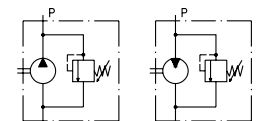
**VPER..**

Adjustable setting with external drain.



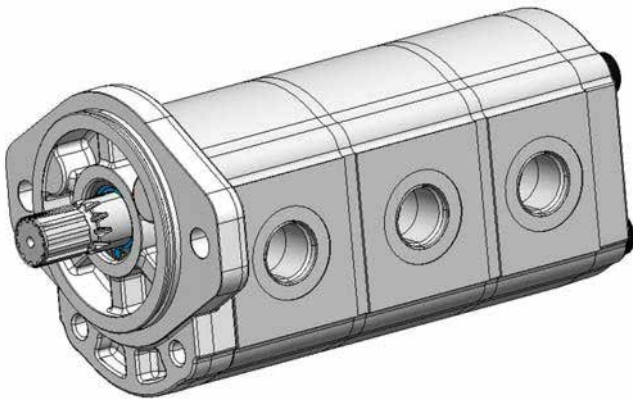
**VPIR..**

Adjustable setting with internal drain.



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**HYDRAULIC GEAR PUMPS AND MOTORS  
SHORT VERSION**



- Solve different problem of O.E.M.s
- Reduced overall dimensions respect standard product
- Available from 4 to 14 cm<sup>3</sup>/rev (0.30 to 0.89 in<sup>3</sup>/rev)
- Max. continuous pressure until 220 bar (3190 psi)

Drive shafts, mounting flange and ports are the same of standard product. For general data please consult our sales department.

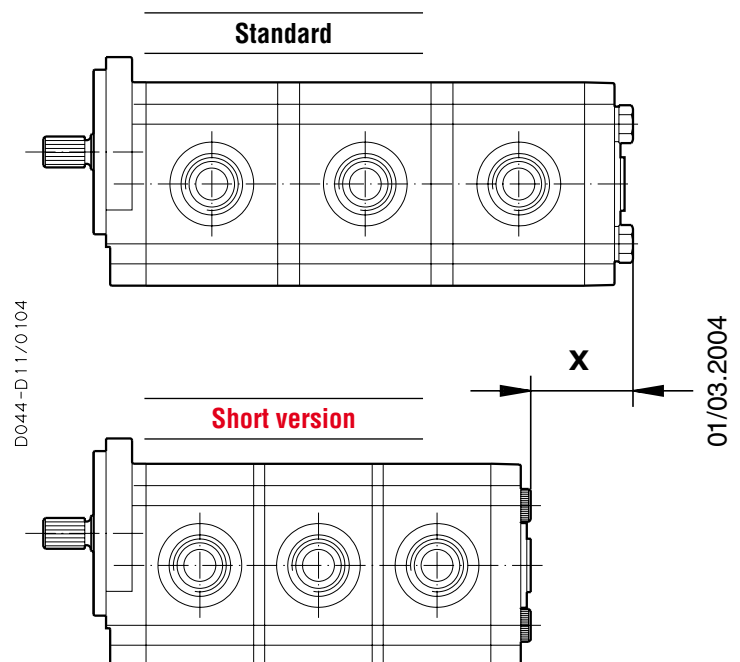
**Availability**

- Single pumps, multiple pumps, and motors
- Version L 101 (hygh strength body)

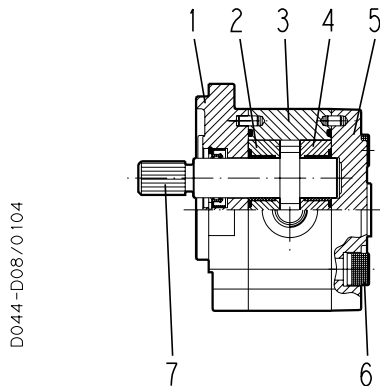
**Reduced overall dimensions (x)  
compared to standard product**

Short version	Single unit	Double pumps	Triple pumps
	mm (inch)	mm (inch)	mm (inch)
<b>TC</b>	- 17,5 - (0.689)	- 29,5 - (1.161)	- 41,5 - (1.634)
<b>TC1</b>	- 12 - (0.472)	- 24 - (0.945)	- 36 - (1.417)
<b>TC2 (◆)</b>	- 5,5 - (0.217)	- 5,5 - (0.217)	- 5,5 - (0.217)
<b>TC3</b>	- 11,5 - (0.453)	—	—
<b>STC</b>	—	- 35 - (1.378)	- 52,5 - (2.067)
<b>STC1</b>	—	- 29,5 - (1.161)	- 47 - (1.850)
<b>STC3</b>	—	- 23 - (0.906)	—

(◆) Available for all displacements.



**Single unit**



D044-D08/O104

	1	2	3	4	5	6	7
<b>TC</b>	STD	TC	TC	TC	TC	TC	TC
<b>TC1</b>	STD	TC	TC	TC	STD	STD	TC
<b>TC2</b>	STD	STD	STD	STD	TC	TC	STD
<b>TC3</b>	STD	STD	TC	TC	TC	TC	TC

Code	<b>Mounting flange</b>	1
<b>STD</b>	Standard	

Code	<b>Front thrust plate</b>	2
<b>STD</b>	Standard	
<b>TC</b>	Short version	

Code	<b>Body</b>	3
<b>STD</b>	Standard	
<b>TC</b>	Short version	

Code	<b>Rear thrust plate</b>	4
<b>STD</b>	Standard	
<b>TC</b>	Short version	

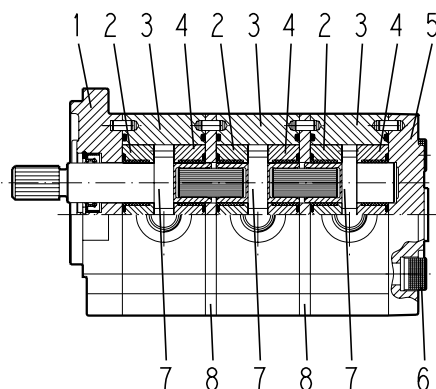
Code	<b>Rear cover</b>	5
<b>STD</b>	Standard	
<b>TC</b>	Short version	

Code	<b>Screws and washer</b>	6
<b>STD</b>	Standard	
<b>TC</b>	Short version screws TCEI and washer	

Code	<b>Gear shafts</b>	7
<b>STD</b>	Standard	
<b>TC</b>	Short version	

Code	<b>Intermediate flange</b>	8
<b>STD</b>	Standard	
<b>TC</b>	Short version	

**Multiple pumps**

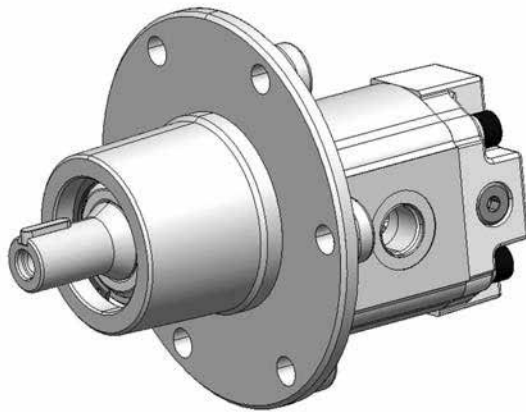


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	Front						Intermediate					Rear						
	1	2	3	4	7	8	2	3	4	7	8	2	3	4	5	6	7	
TC	STD	TC	TC	TC	TC	STD	TC	TC	TC	TC	STD	TC	TC	TC	TC	TC	TC	
TC1	STD	TC	TC	TC	TC	STD	TC	TC	TC	TC	STD	TC	TC	TC	STD	STD	TC	
TC2	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	TC	TC	STD	
STC	STD	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	
STC1	STD	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	STD	STD	TC	
STC2	STD	TC	TC	TC	TC	TC	-	-	-	-	-	STD	STD	STD	TC	TC	STD	

**HYDRAULIC GEAR MOTORS FOR TURF CARE APPLICATION**

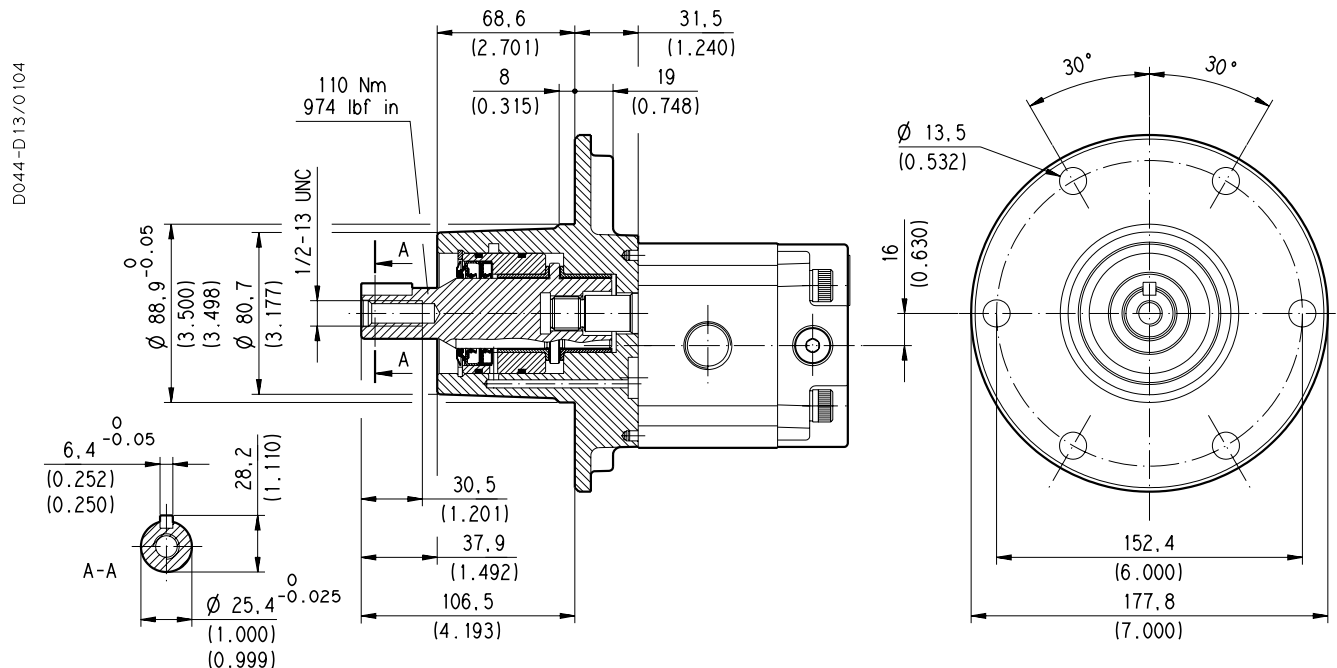


- **Velvet cut**  
Through high volumetric efficiency
- **Silent operation**  
Reduced flow ripples
- **Leakage free**  
Advanced seal system
- **Blade directly attached on shaft motor**
- **Anti-cavitation and max pressure relief valve incorporated**
- **Special ports availability**

General data are the same of standard product.

**Availability**

- Reversible motors with side drain
- Version L 101 (high strength body)
- Version 2P (two pieces construction)
- Different shafts and flanges (D3 Q1)



**Valve availability**

**CHECK VALVE**

**V8** Anti-cavitation valve.

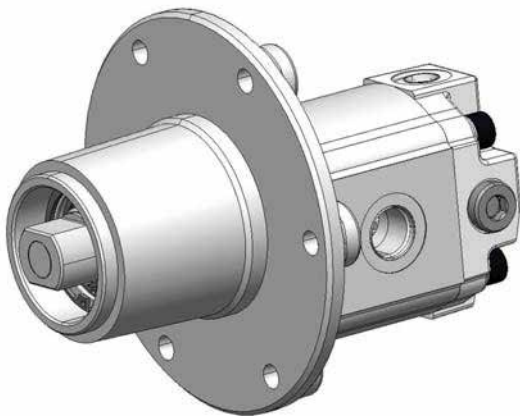
**MAX PRESSURE RELIEF VALVE**

**VPEF..** Fixed setting with external drain.

**VPIF..** Fixed setting with internal drain.



## HYDRAULIC GEAR MOTORS FOR TURF CARE APPLICATION

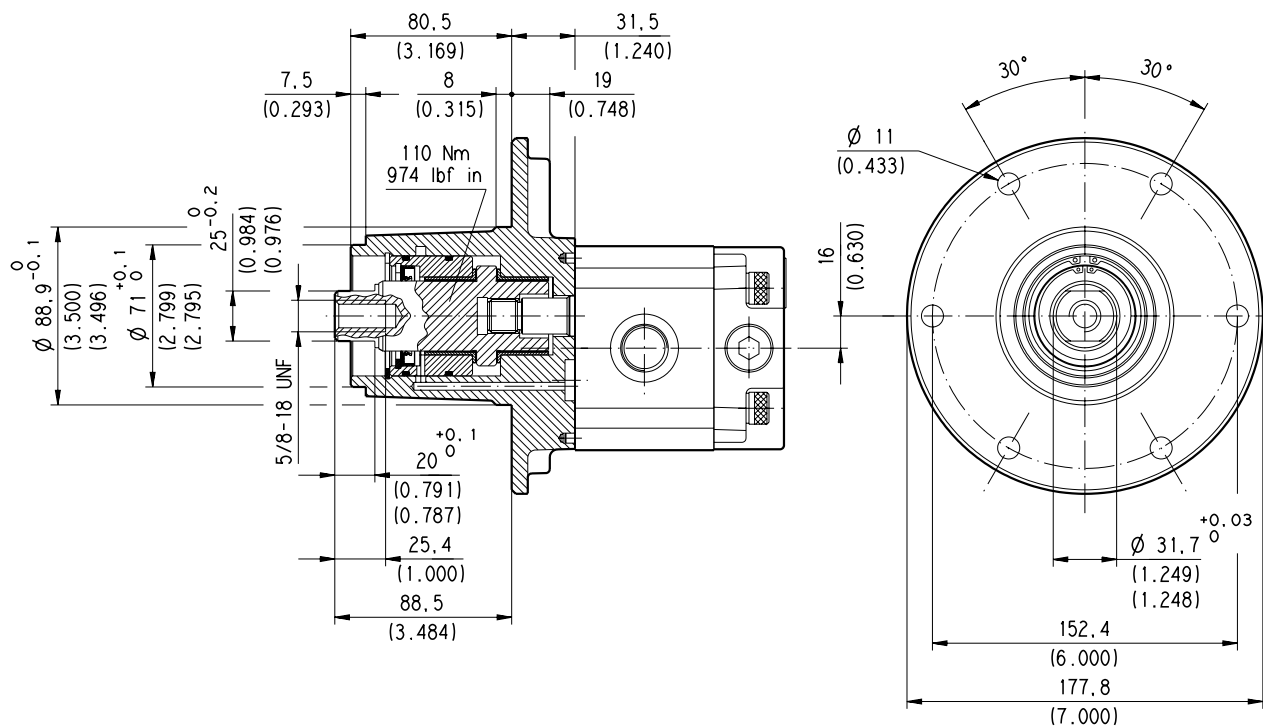


- **Velvet cut**  
Through high volumetric efficiency
- **Silent operation**  
Reduced flow ripples
- **Leakage free**  
Advanced seal system
- **Blade directly attached on shaft motor**
- **Anti-cavitation and max pressure relief valve incorporated**
- **Special ports availability**

General data are the same of standard product.

## Availability

- Reversible motors with side drain
- Version L 101 (high strength body)
- Version 2P (two pieces construction)



### Valve availability

## CHECK VALVE

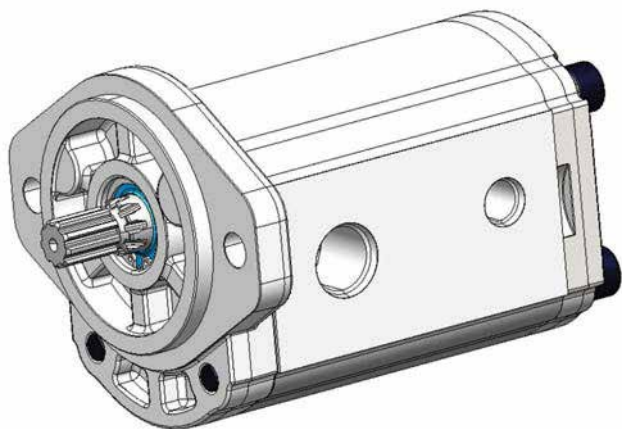
**V8** Anti-cavitation valve.

## MAX PRESSURE RELIEF VALVE

**VPEF..** Fixed setting with external drain.

**VPIF..** Fixed setting with internal drain.

**DOUBLE PUMPS PLP20/10  
TWO PUMPS IN A SINGLE BODY**



- **Solve different problem of O.E.M.s**
- **Price reduction compared to standard version PLP20/10**
- **Compact design – 30mm (– 1.181 in) shorter**
- **Special ports availability**
- **Less parts**  
Reduced the possibility of oil leakage

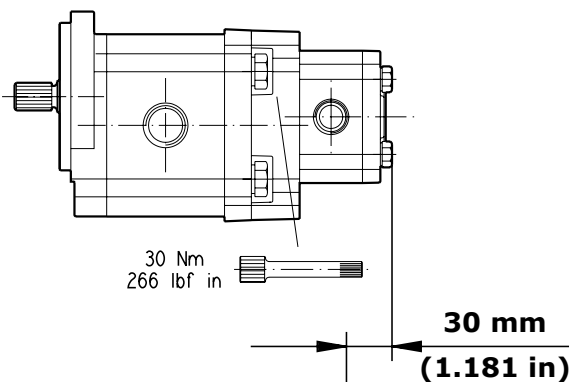
General data, drive shafts, mounting flange and ports are the same of standard product.

**Availability**

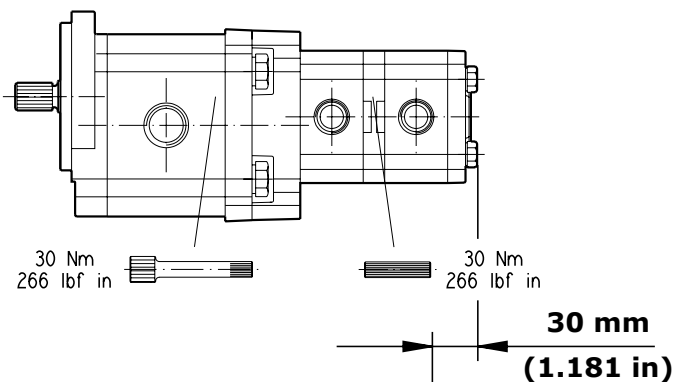
- Common inlet
- Incorporated outboard bearing
- Version L 101 (high strength body)
- Front or rear section of multiple pumps

**Compact design**

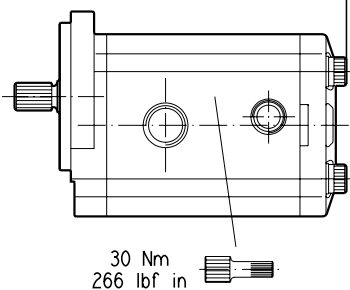
**Standard 20/10**



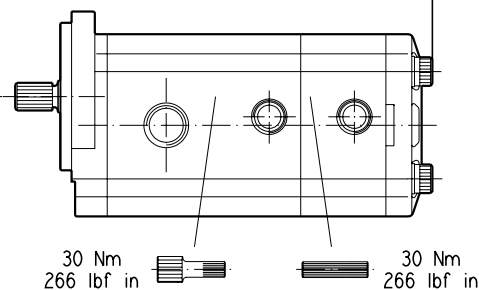
**Standard 20/10/10**



**Twin 20/10**



**Twin 20/10/10**



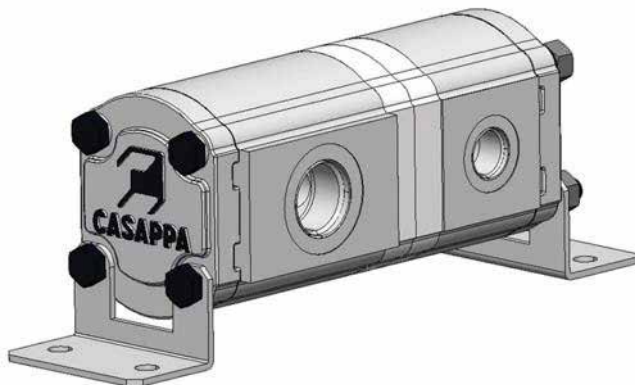
D044-D07/0104

01/03.2004

**DRIVE GEAR MOTOR COUPLED WITH DRIVEN PUMP**

➤ **Separate stages**

General data and ports are the same of standard product.



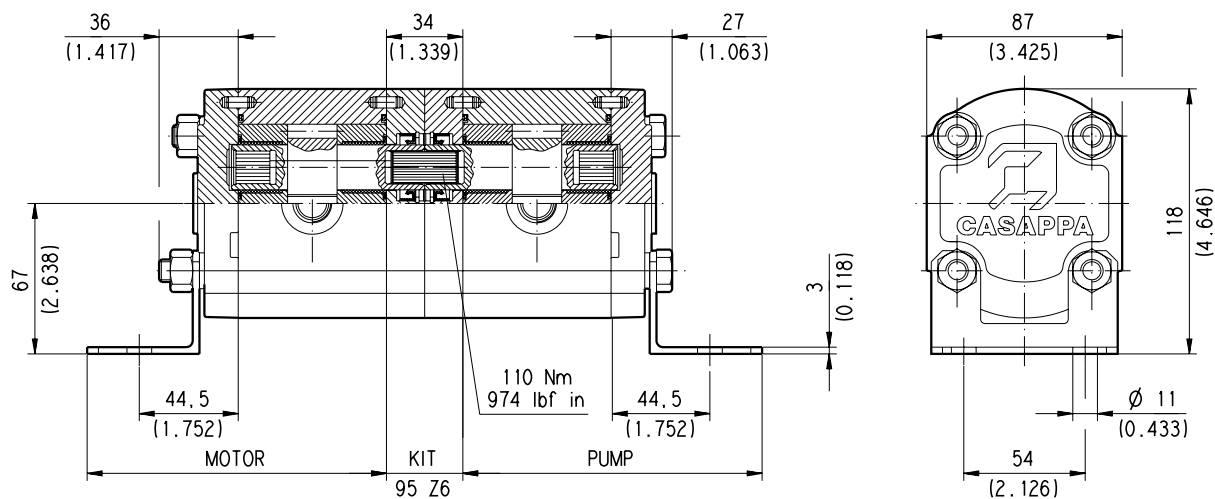
**Applications**

- Lubricating oil system
- Pouring off system

**Availability**

- Version L 101 (high strength body)
- Unidirectional and reversible rotation

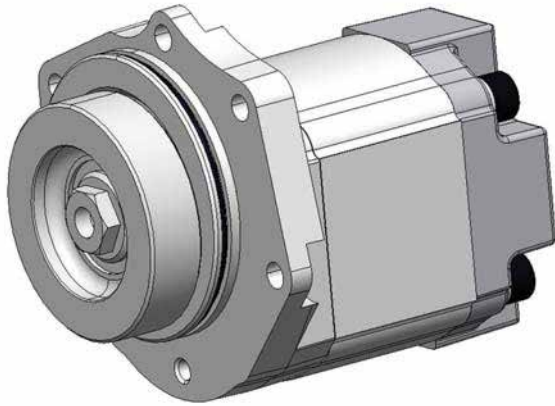
**Dimensions**



01/03.2004

D044-D15/0104

## HYDRAULIC GEAR PUMPS FOR PERKINS ENGINE MOTORS SERIES 1100



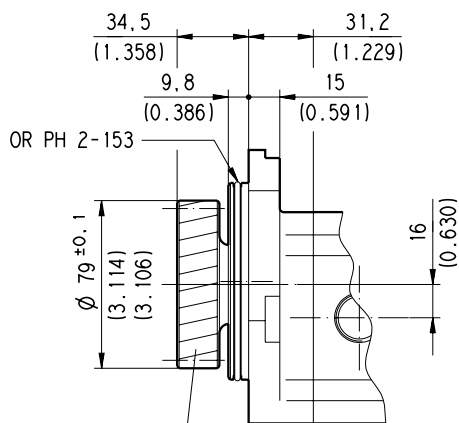
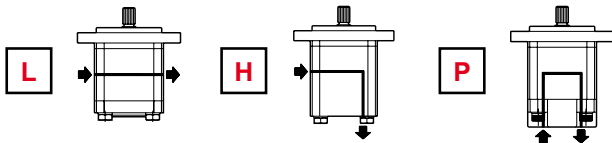
- **Directly mounted on motor**  
Without P.T.O. - Price reduction
- **More choices of type and ports position**

General data and ports are the same of standard product.

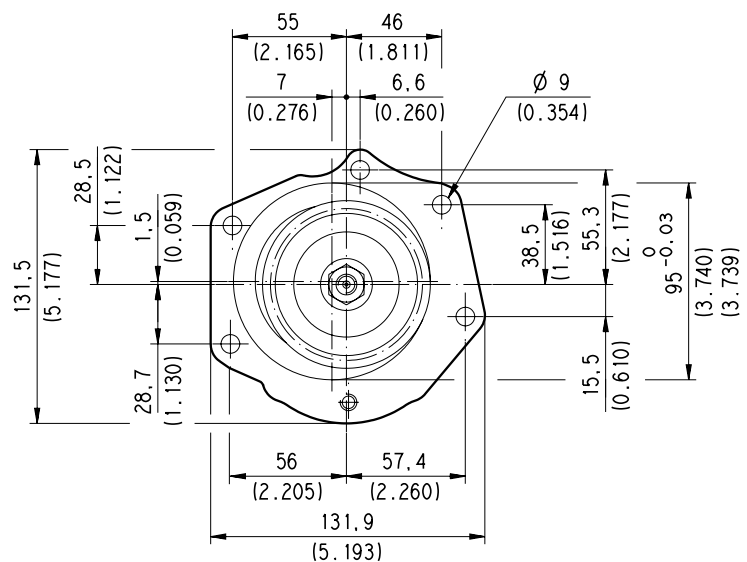
### Availability

- Single and multiple pumps
- Incorporated outboard bearing version 5
- Version L 101 (high strength body)
- Version 2P (two pieces construction)
- Fixed setting max pressure relief valve (VPIF..)
- Special connector for side outlet port (L) of multiple pumps front sections (for naturally aspirated motors)

### Ports position IN/OUT



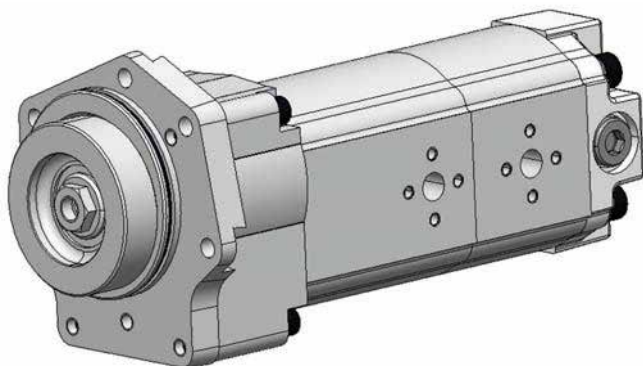
34 Teeth left hand helical gear  
Helix angle 14°  
Normal pressure angle 17°  
Transverse pressure angle 17.489°  
140 Nm  
1240 lbf in



D044-D19/O104

01/03.2004

**HYDRAULIC GEAR PUMPS FOR PERKINS  
ENGINE MOTORS SERIES 1100**



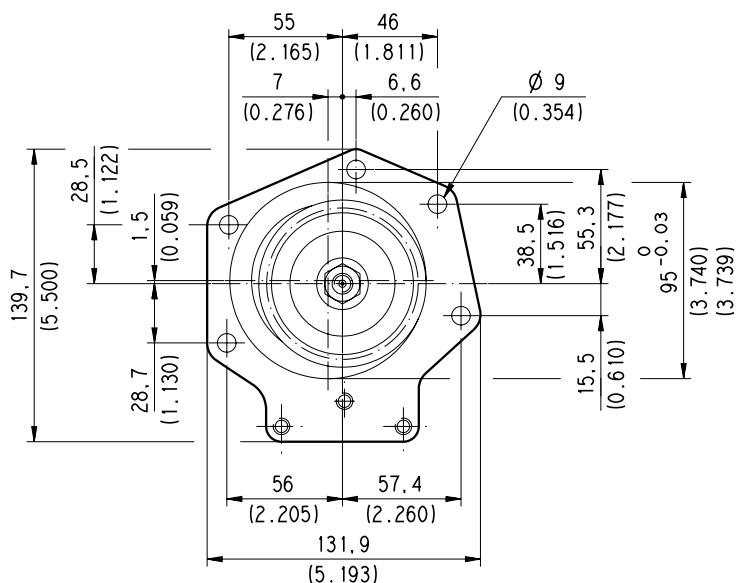
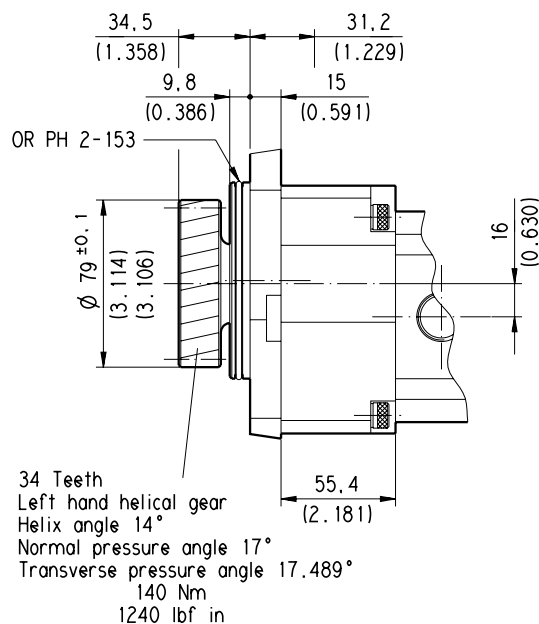
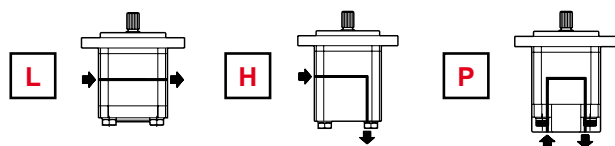
- **Directly mounted on motor**  
Without P.T.O. - Price reduction
- **More choices of type and ports position**

General data and ports are the same of standard product.

**Availability**

- Single and multiple pumps
- Version L 101 (high strength body)
- Version 2P (two pieces construction)
- Fixed setting max pressure relief valve (VPIF..)
- Special connector for side outlet port (L) of multiple pumps front sections (for naturally aspirated motors)

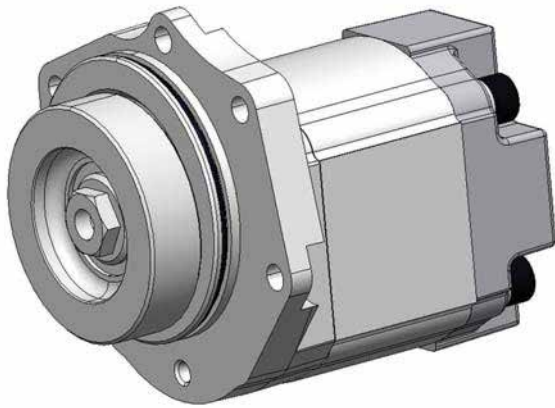
**Ports position IN/OUT**



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D044-D20/O104

## HYDRAULIC GEAR PUMPS FOR PERKINS ENGINE MOTORS SERIES 1000



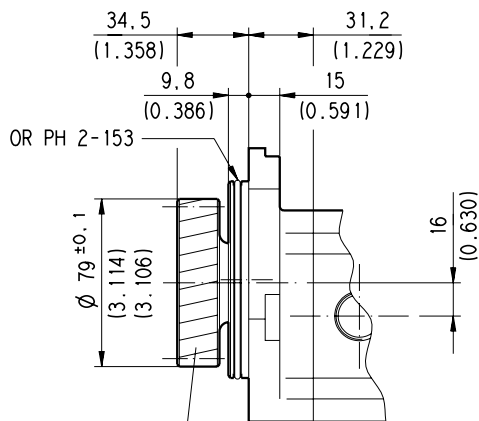
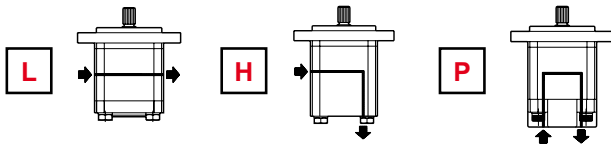
- **Directly mounted on motor**  
Without P.T.O. - Price reduction
- **More choices of type and ports position**

General data and ports are the same of standard product.

### Availability

- Single and multiple pumps
- Incorporated outboard bearing version 4 and 5
- Version L 101 (high strength body)
- Version 2P (two pieces construction)
- Fixed setting max pressure relief valve (VPIF..)
- Special connector for side outlet port (L) of multiple pumps front sections (for naturally aspirated motors)

### Ports position IN/OUT

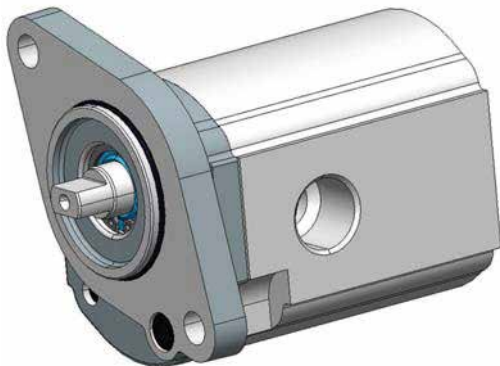


28 Teeth left hand helical gear  
Helix angle 14°8'  
Normal pressure angle 20°  
Transverse pressure angle 20.57°  
140 Nm  
1240 lbf in

D044-D2 1/0 104

01/03.2004

**HYDRAULIC GEAR PUMPS FOR KUBOTA  
ENGINE MOTORS SERIES D905**



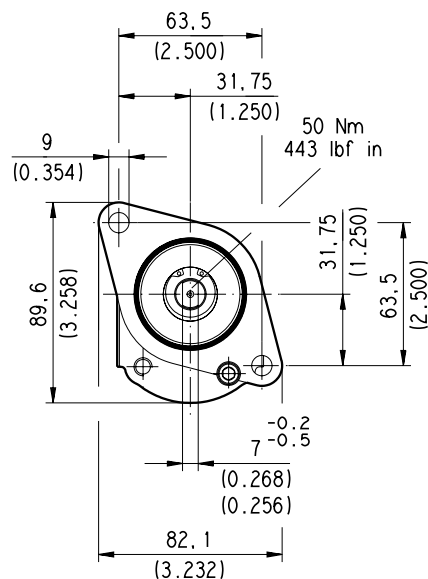
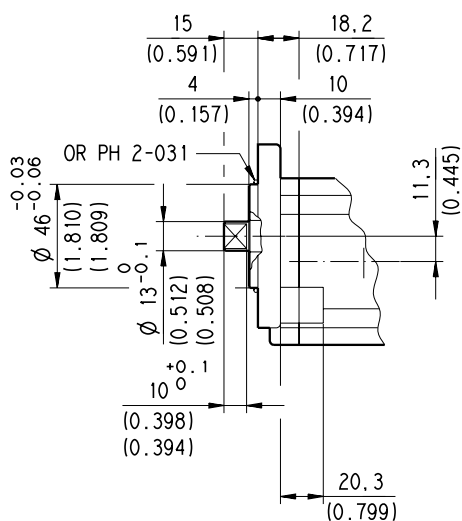
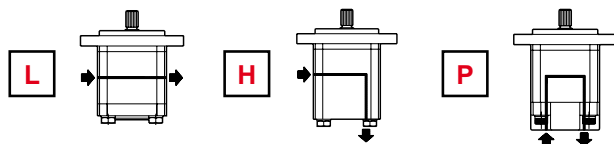
- **Directly mounted on motor P.T.O.**
- **More choices of type and ports position**

General data and ports are the same of standard product.

**Availability**

- Single and multiple pumps
- Version 2P (two pieces construction)

**Ports position IN/OUT**



01/03.2004

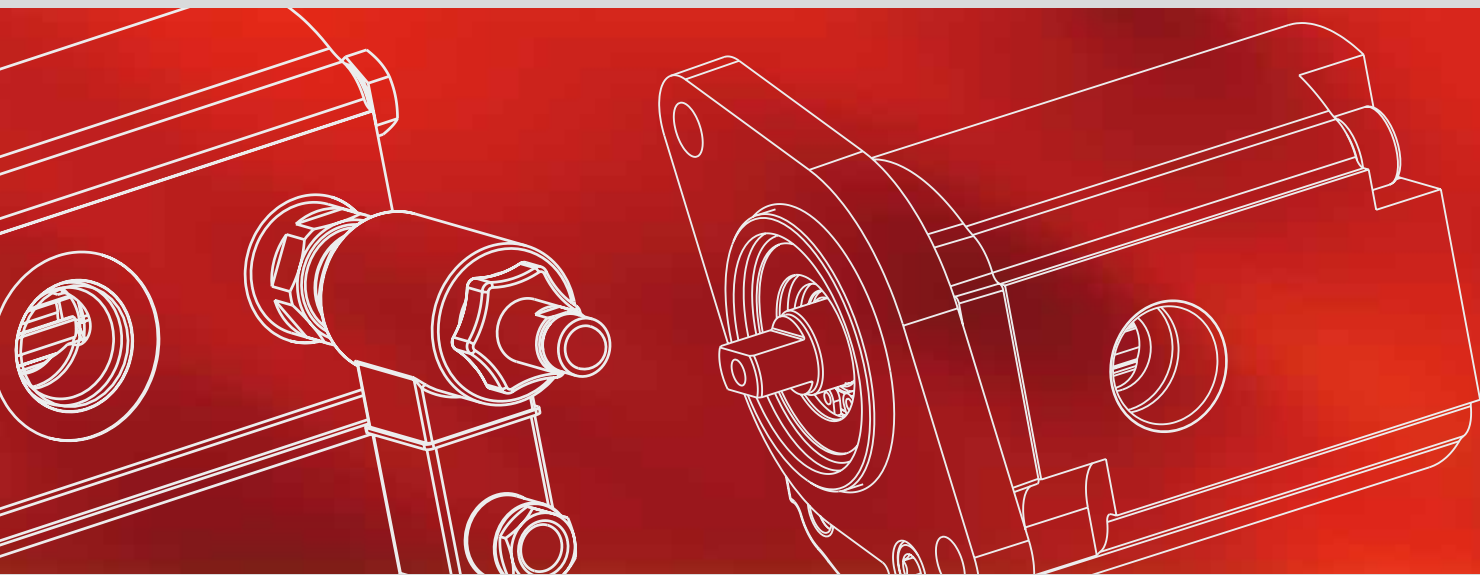
D044-D22/O104

Our policy is one of continuous improvement in product. Specification of items may, therefore, be changed without notice.

**SPV 02 T A**

Edition: 02/05.2015

Replaces: SPV 01 T A



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