



# Drive Controlled Pump

Energy-Efficient Hydraulic System Solutions



ENGINEERING YOUR SUCCESS.



## **WARNING – USER RESPONSIBILITY**

**FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.**

This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

## **Offer of Sale**

Please contact your Parker representation for a detailed "Offer of Sale".

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## Introduction / Features

The Drive Controlled Pump system solutions from Parker are variable-speed hydraulic pump systems. They essentially consist of an AC drive unit (frequency controller and electronics), an asynchronous, synchronous servo or compact synchronous servor motor as well as a hydraulic pump. They enable the central, regulated hydraulic supply of all drives. Thus they provide the exact power that is required in the cycle at all times.

The controller continuously records target values for the volume flow and/or pressure of the machine control system and compares them to actual pressure value. The drive speed of the electric motor is regulated so that the pump provides the exact amount of oil required to achieve the target value.

With the Drive Controlled Pump, Parker optionally employs vane pumps or axial piston pumps or combinations of both.

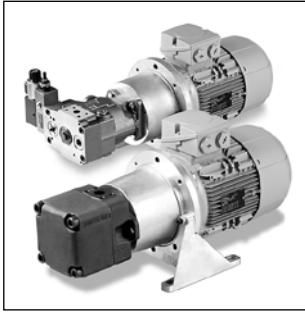
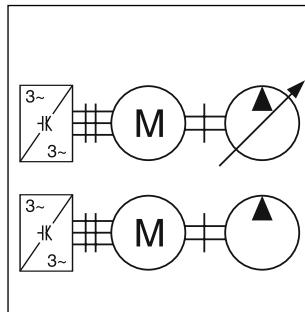
The vane pump represents the ideal basis for systems with fixed displacement pumps. Her minimum speed increases from zero proportional to pressure up to 300 rpm at maximum pressure. Thanks to the very wide range of speed up to 3000 rpm and the high operating pressures of up to 320 bar, this system solution can be tuned exactly to a customer's specific requirements. The robust double lip design makes the pump impervious to particle contamination and maintains a high degree of efficiency in the long term.

The axial piston pump is utilized if high peak pressures are introduced or if high pressures must be maintained for long periods. The housings increased rigidity ensures low vibration and therefore reduces the noise level. The reduced pressure and volume flow pulsation also reduces the load on the piping system.

### Features

- Suitable for 400 V supply
- Change-over pressure/volume flow control
- Optimum dimensioning of all components using the Parker DriveCreator software
- Standard interfaces for simple conversion of conventional pump systems
- Dual pump systems for larger volume flow possible – also as combination of variable and fixed displacement pump systems
- High precision and dynamic operation for flow and pressure control
- High energy efficiency through optimum adjustment to cycle requirements
- Low noise emissions through optimized pump design and speed adjustment

## Drive Controlled Pump



### Recommended fluids

We recommend high-quality mineral hydraulic fluids: HLP oils as per DIN 51524. For general applications, the Brugger value should be at least 30 N/mm<sup>2</sup>; 50 N/mm<sup>2</sup> for heavy-duty systems (measured as per DIN 51347-2).

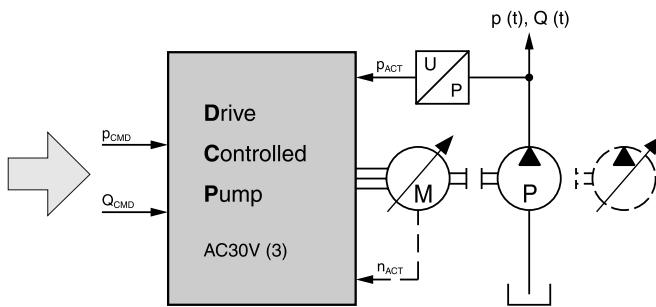
Under normal conditions, the viscosity should be between 16 and 100 mm<sup>2</sup>/s (cSt). Maximum start-up viscosity is 800 mm<sup>2</sup>/s (cSt).

The fluid must have a purity in conformance with ISO 4406:1999. The filter elements must also conform to ISO standards. For systems with maximum service life: purity level 18/16/13 in accordance with ISO 4406:1999; otherwise, purity level 20/18/15 (19/17/14 for vane pumps) in accordance with ISO 4406:1999.

## System Components

### Components of the drive-controlled pump system

1. Motor
  - Asynchronous standard motor or
  - Synchronous servo motor, catalogue 192-061012 and 192-061013
  - Compact synchronous servo motor, catalogue 192-300108
2. Pump
  - Vane pump T7, catalogue HY29-0001, or
  - Axial piston pump PVplus, catalogue HY30-3245, or
  - Combination of vane pump and axial piston pump
  - Mounting accessories for motor pump assembly <sup>1)</sup>:
    - Coupling
    - Pump bellhousing
    - Pump flange
3. AC Drive Controller
  - AC30V, catalogue 192-300022
4. Accessories that may be required <sup>2)</sup>
  - Shield connection
  - Power cables
  - Sensor cables
  - Braking resistor
  - Mains filters
  - Pressure transducer



Further combinations in addition to those contained in this catalogue are available upon request. Detailed information on all Parker components can be found in the individual product catalogues (see above).

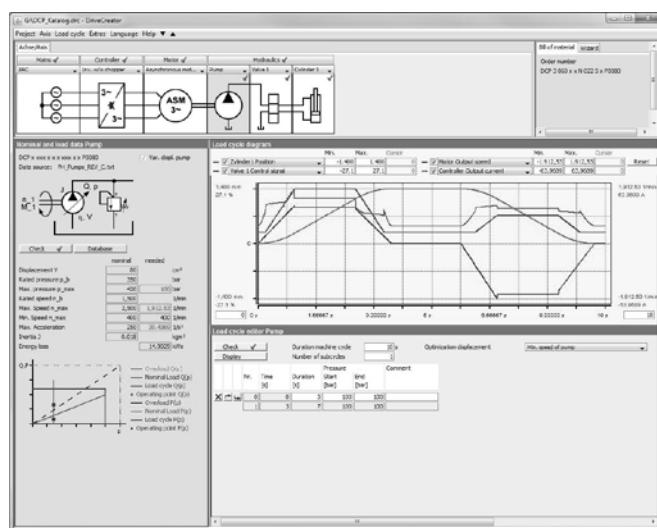
## Drive Controlled Pump

### Parker DriveCreator

For optimum yet simple selection and dimensioning of the components Parker offers a unique software tool: the Parker DriveCreator.

Firstly, the cycle data (cylinder speed and load or pressure and volume flow) is entered. Subsequently, the optimum pump or combination of pumps is selected using this data, and then motor and drive suitable for the power consumption.

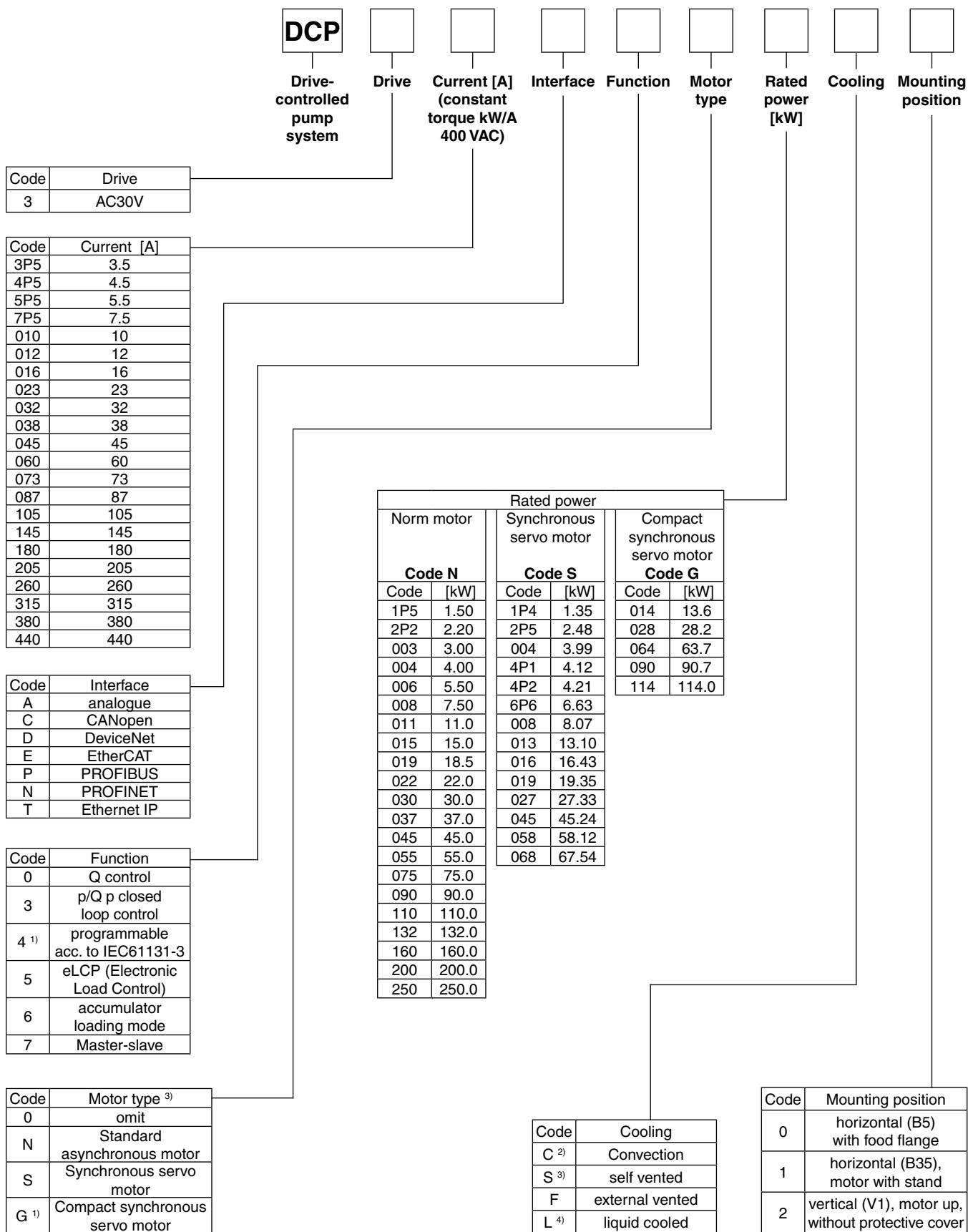
The Parker DriveCreator calculates the best combination of components possible with the highest degree of energy efficiency.



Access to this tool can be obtained via [www.parker.com/drivecontrolledpump](http://www.parker.com/drivecontrolledpump)

<sup>1)</sup> Dependent on the selected motor-pump combination.

<sup>2)</sup> Not included in delivery.



**Ordering Code****Drive Controlled Pump**

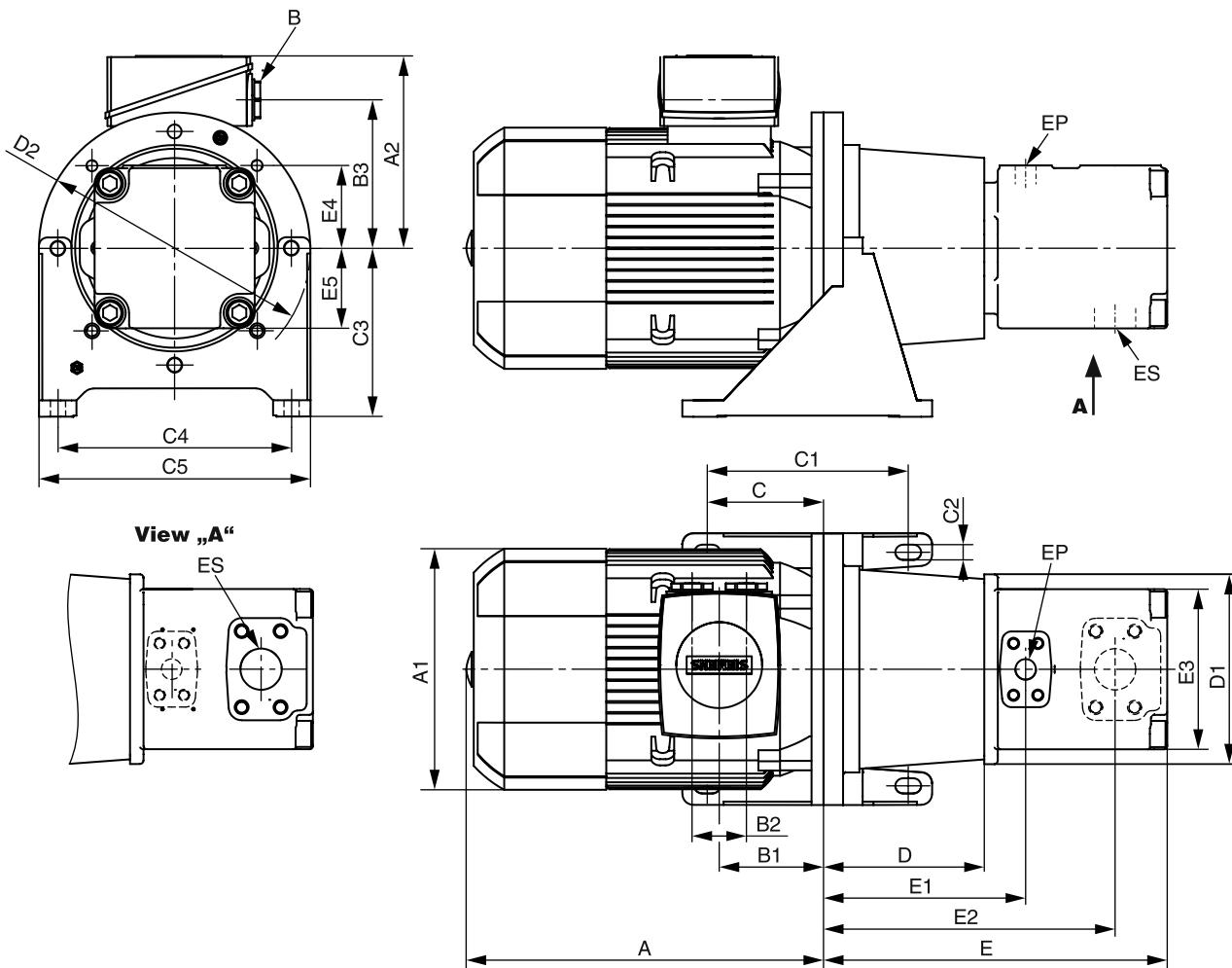
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<sup>1)</sup> Option G only with cooling code L.<sup>2)</sup> Not for standard asynchronous motors.<sup>3)</sup> Synchronous servo motors on request.<sup>4)</sup> Cooling code L only with motor code G.<sup>5)</sup> Code build from letter and 4 digit number.**Warning!**

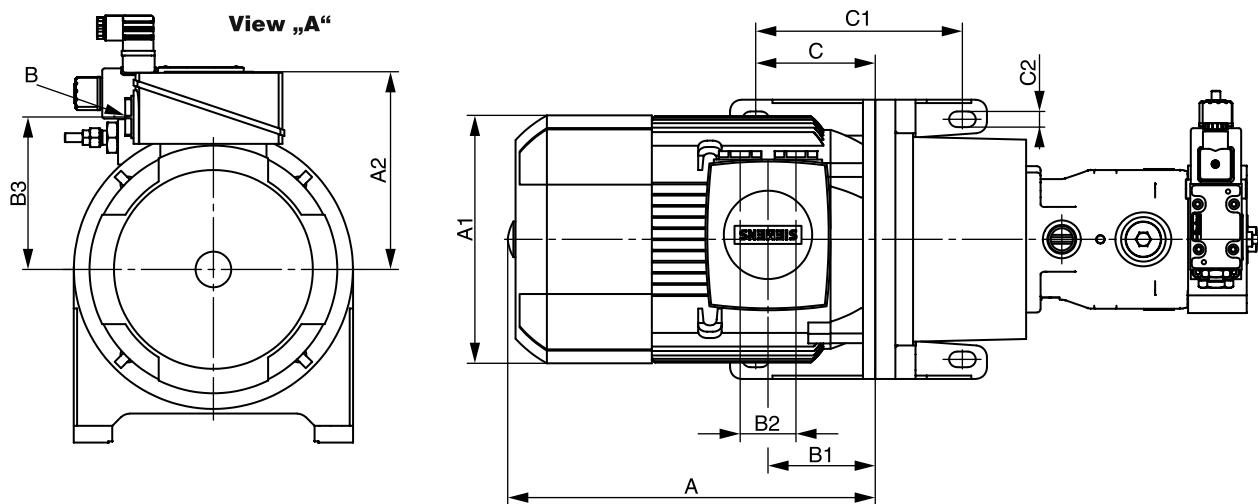
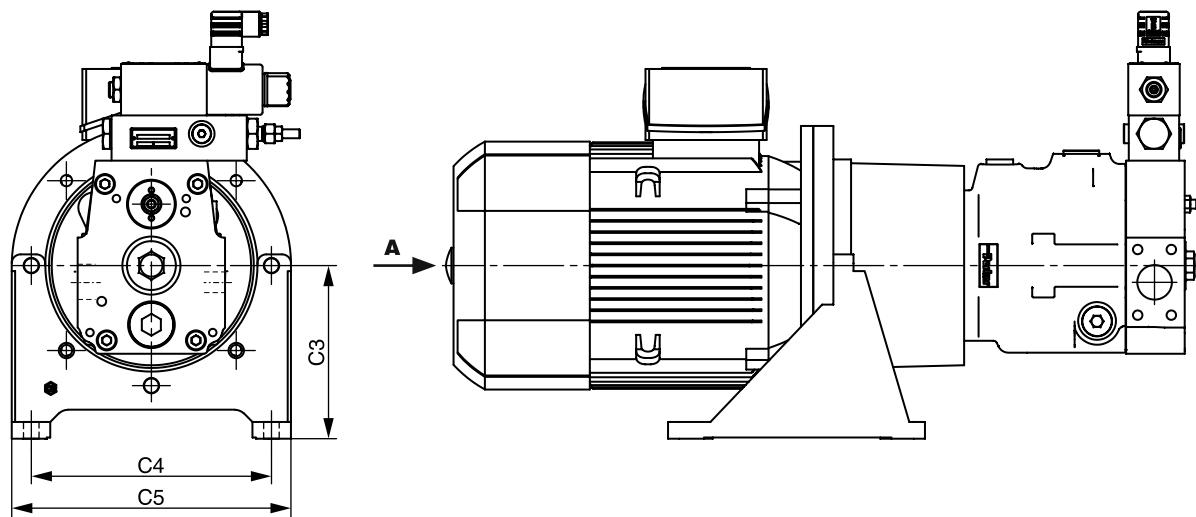
The torque of the second pump must not exceed the torque of the first pump!

**Dimensions****Drive Controlled Pump**

**Vane pump with standard asynchronous motor**



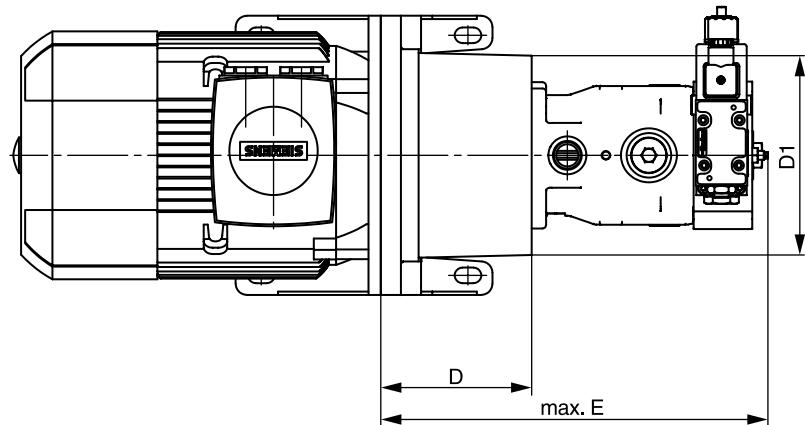
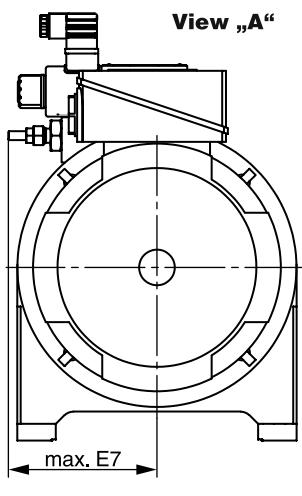
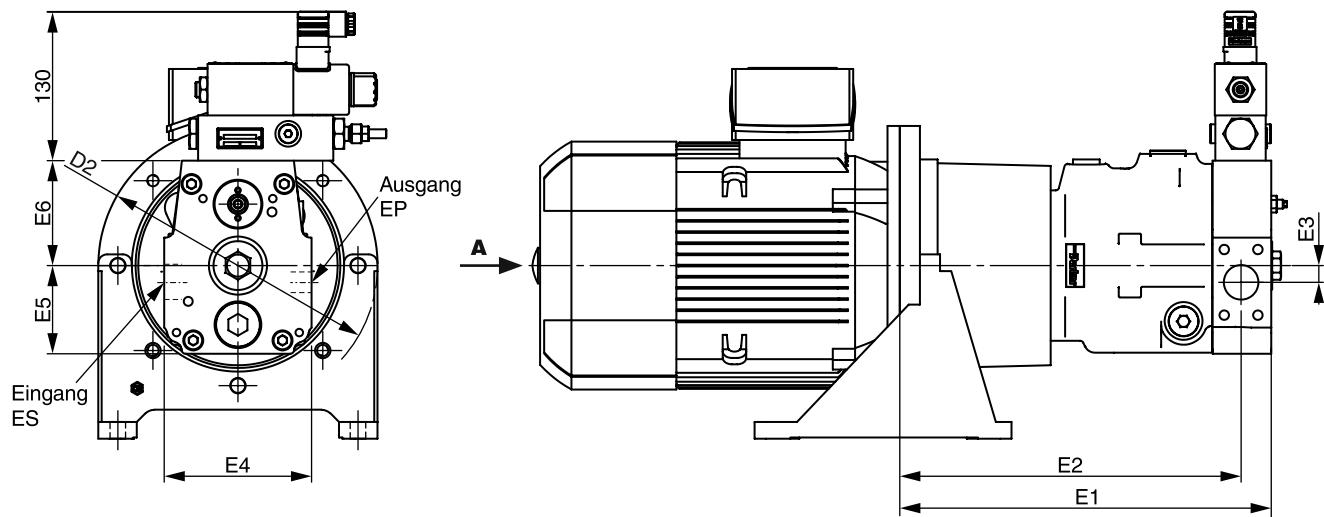


**Axial piston pump with standard asynchronous motor**

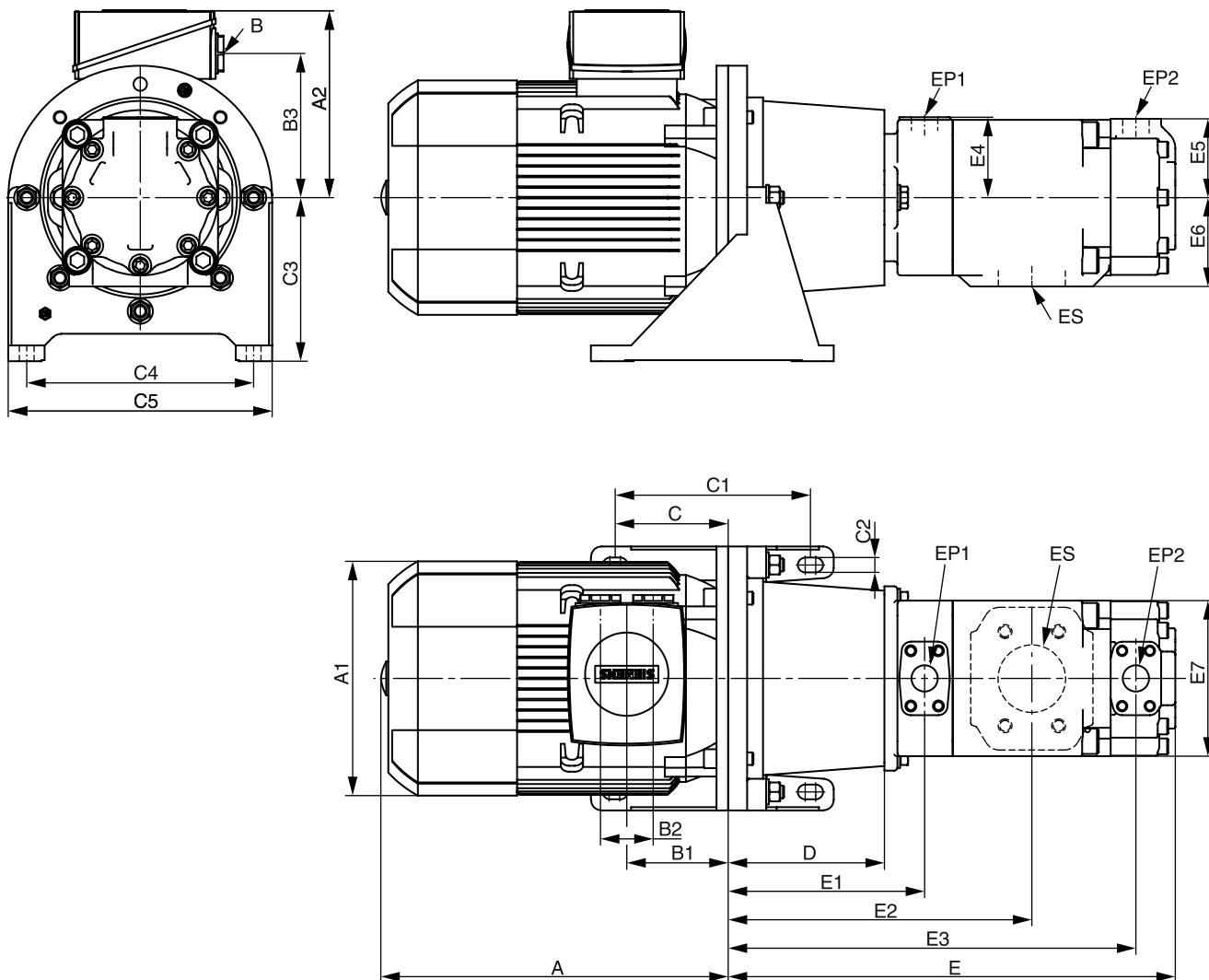


**Dimensions****Drive Controlled Pump**

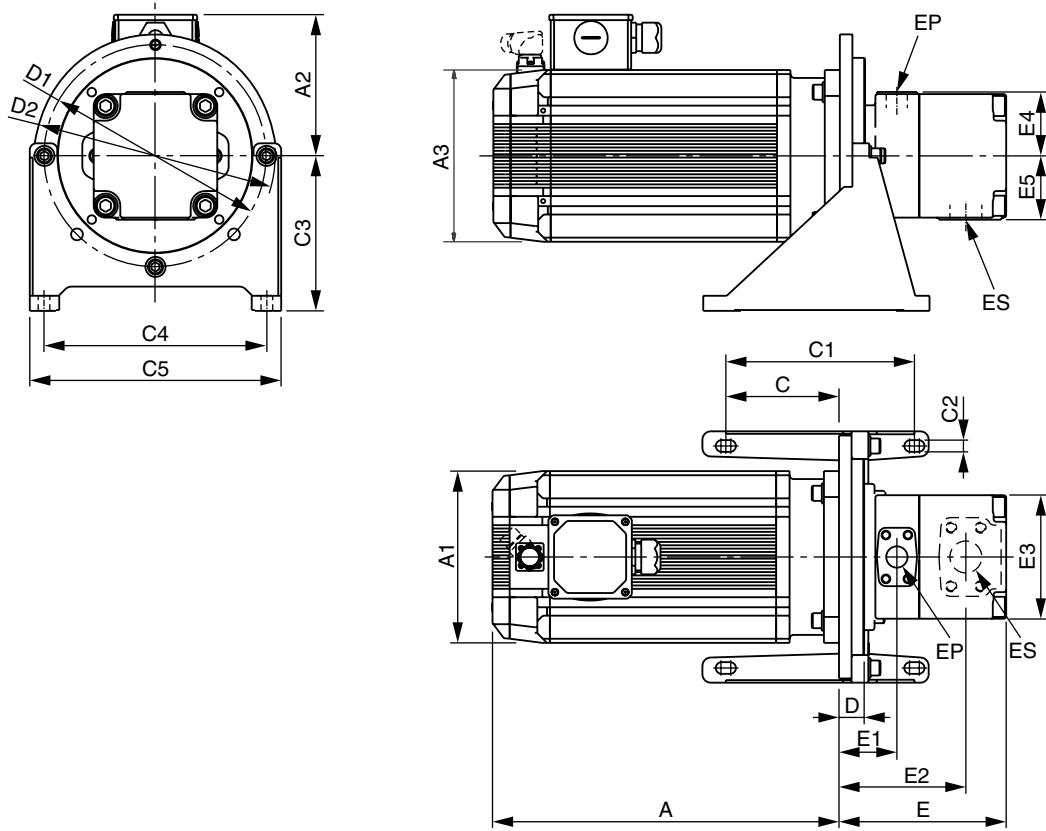
**Axial piston pump with standard asynchronous motor**





**Dimensions****Drive Controlled Pump****Double vane pump with standard asynchronous motor**



**Dimensions****Drive Controlled Pump****Vane pump with synchronous motor**

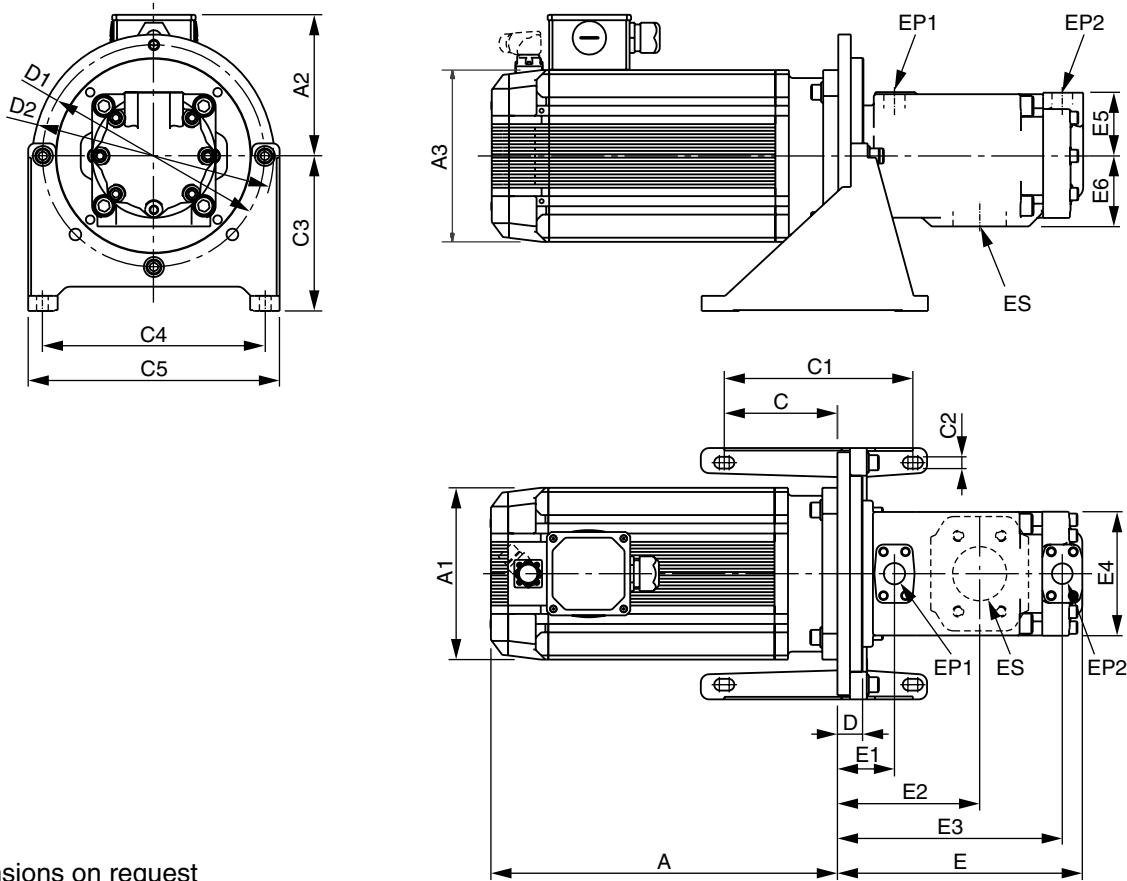
<b>Motor code</b>	<b>Motor size</b>	<b>Pump code</b>	<b>A [mm]</b>	<b>A1 [mm]</b>	<b>A2 [mm]</b>	<b>A3 [mm]</b>	<b>C [mm]</b>	<b>C1 [mm]</b>	<b>C2 [mm]</b>	<b>C3 [mm]</b>	<b>C4 [mm]</b>	<b>C5 [mm]</b>	<b>D [mm]</b>	<b>D1 [mm]</b>	<b>D2 [mm]</b>
004 - 6P6	MH 145	A0006 - A0013	292 - 416	145	125	145	125	185	14	155	215	250	30	215	240
4P2 - 019	MH 205	A0006 - A0025	239 - 480	205	172	205	125	185	14	155	215	250	30	215	240
006 - 019	MH 205	B0009 - B0011	306 - 480	205	172	205	150	225	14	185	265	300	30	265	290
027 - 045	MH 265	A0017 - A0025	340 - 447	265	229	265	150	225	14	185	265	300	30	265	290
027 - 058	MH 265	B0009 - B0015	340 - 554	265	229	265	150	225	14	185	265	300	30	265	290
027 - 068	MH 265	D0017 - D0042	340 - 661	265	229	265	150	225	14	185	265	300	30	265	325

<b>Motor code</b>	<b>E [mm]</b>	<b>E1 [mm]</b>	<b>E2 [mm]</b>	<b>E3 [mm]</b>	<b>E4 [mm]</b>	<b>E5 [mm]</b>	<b>EP</b>	<b>ES</b>
004 - 6P6	168.5	68.2	146.3	110	68	63.5	1 1/4" BSPP	3/4" BSPP
4P2 - 019	168.5	68.2	146.3	110	68	63.5	1 1/4" BSPP	3/4" BSPP
006 - 019	198.5	112.3	68.1	140	76.2	76.2	1 1/2" ; 4x M12 x 22.4 deep	1" ; 4x M10 x 19 deep
027 - 045	168.5	68.2	146.3	110	68	63.5	1 1/4" BSPP	3/4" BSPP
027 - 058	198.5	112.3	68.1	140	76.2	76.2	1 1/2" ; 4x M12 x 22.4 deep	1" ; 4x M10 x 19 deep
027 - 068	214.9	117.4	68.1	147.4	82.6	82.6	2 1/2" ; 4x M12 x 23.9 deep	1 1/4" ; 4x M12 x 22.3 deep

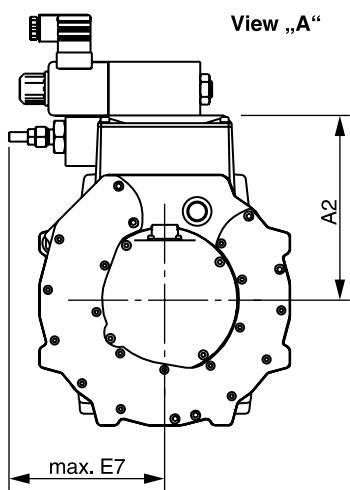
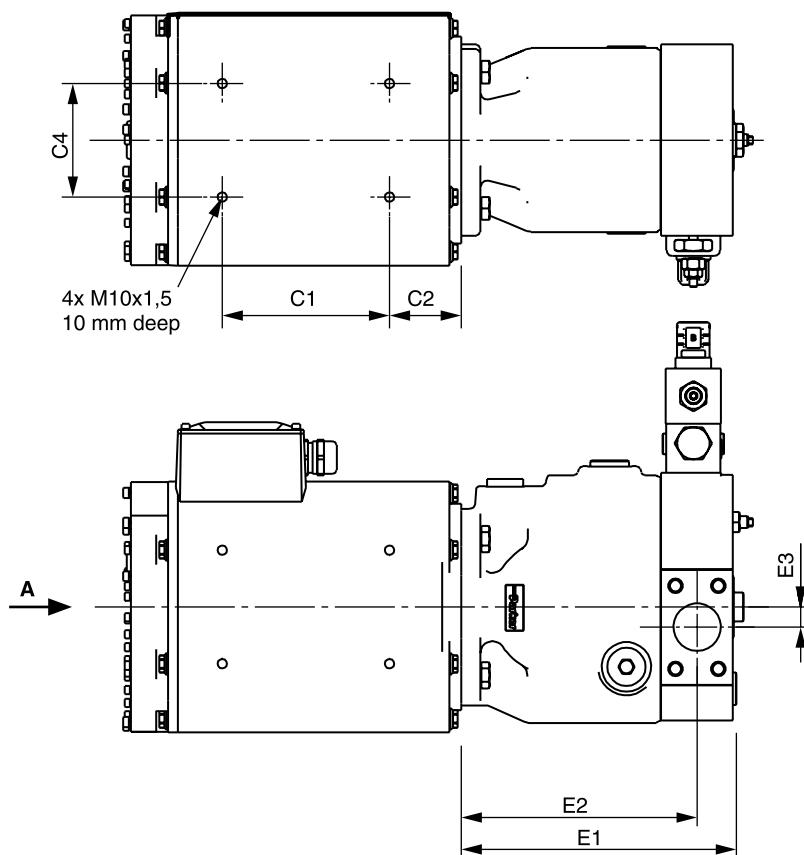
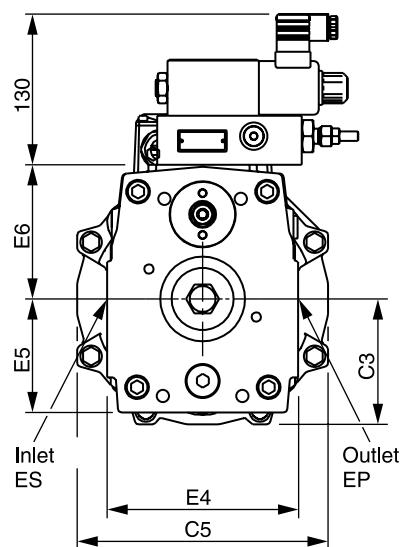
<b>Motor code</b>	<b>Motor size</b>	<b>A [mm]</b>
1P4	MH 145	200
2P5	MH 145	231
004	MH 145	292
4P1	MH 145	354
4P2	MH 205	239
6P6	MH 145	416
008	MH 205	273

<b>Motor code</b>	<b>Motor size</b>	<b>A [mm]</b>
013	MH 205	342
016	MH 205	411
019	MH 205	480
027	MH 265	340
045	MH 265	447
058	MH 265	554
068	MH 265	661

EP: Pressure ports, BSPP or SAE 4-hole flange - J518 - ISO/DIS6162-1  
 ES: Suction ports, BSPP or SAE 4-hole flange - J518 - ISO/DIS6162-1

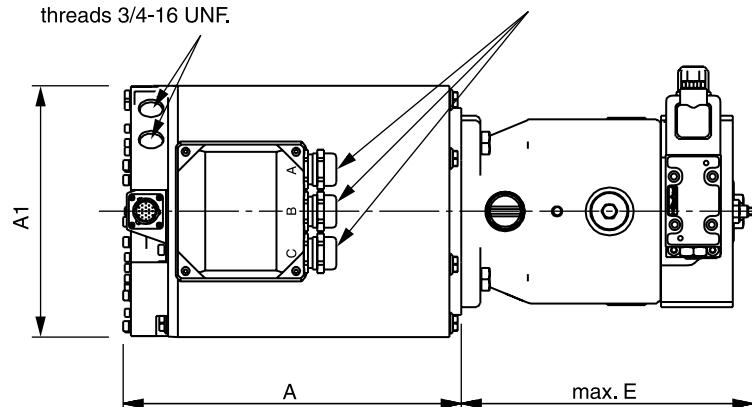
**Dimensions****Drive Controlled Pump****Double vane pump with synchronous servo motor**

All dimensions on request

**Dimensions****Drive Controlled Pump****Axial piston pump with compact synchronous servo motor**

Inlet and outlet cooling  
2x 1/2" ORB-8 SAE J1926-1  
threads 3/4-16 UNF.

3x M25 glands for shielded cables.  
Cable outside available Ø10 mm to 18 m.



**Dimensions****Drive Controlled Pump**

<b>Motor Code</b>	<b>Motor size</b>	<b>Pump code</b>	<b>A [mm]</b>	<b>A1 [mm]</b>	<b>A2 [mm]</b>	<b>C1 [mm]</b>	<b>C2 [mm]</b>	<b>C3 [mm]</b>	<b>C4 [mm]</b>	<b>C5 [mm]</b>	<b>E [mm]</b>	<b>E1 [mm]</b>	<b>E2 [mm]</b>	<b>E3 [mm]</b>	<b>E4 [mm]</b>
014 - 114	GVM210	P0016 - P0028	235 - 585	210	156	90 - 440	60	105	95	210	212	197.5	170.5	15	132
014 - 114	GVM210	P0032 - P0046	236 - 585	210	156	90 - 440	60	105	95	210	248	227	197	17	160
014 - 114	GVM210	P0063 - P0092	237 - 585	210	156	90 - 440	60	105	95	210	308	287	252	26	200
014 - 114	GVM210	P0140 - P0180										on request			
014 - 114	GVM210	P0270										on request			
014 - 114	GVM210	P0360										on request			

<b>Motor Code</b>	<b>Motor size</b>	<b>Pump code</b>	<b>E5 [mm]</b>	<b>E6 [mm]</b>	<b>E7 [mm]</b>	<b>EP</b>			<b>ES</b>				
014 - 114	GVM210	P0016 - P0028	79	94	130	DN19 ; PN 400 bar ; 4xM10x18 deep			DN32 ; PN 250 bar ; 4xM10x18 deep				
014 - 114	GVM210	P0032 - P0046	97	112.5	130	DN25 ; PN 400 bar ; 4xM12x18 deep			DN38 ; PN 200 bar ; 4xM12x18 deep				
014 - 114	GVM210	P0063 - P0092	120	132	133	DN32 ; PN 400 bar ; 4xM12x20 deep			DN51 ; PN 200 bar ; 4xM12x20 deep				
014 - 114	GVM210	P0140 - P0180				on request							
014 - 114	GVM210	P0270				on request							
014 - 114	GVM210	P0360				on request							

<b>Motor Code</b>	<b>Motor size</b>	<b>A [mm]</b>	<b>C1 [mm]</b>
014	GVM210-50	235	90
028	GVM210-100	285	140
064	GVM210-200	385	240
090	GVM210-300	485	340
114	GVM210-400	585	440

EP: Pressure port, flange acc. to ISO 6162

ES: Suction port, flange acc. to ISO 6162

<sup>1)</sup> Dimension for suction port +10 mm

**Vane Pumps**

Parker vane pumps are especially suited to variable speed applications. They enable very quick changes in pressure at a very high flow rate reproducibility and at a low noise level. Their minimum speed increases from zero proportional to pressure up to 300 rpm at maximum pressure. High operating pressures of up to 320 bar and small dimensions reduce installation costs. Reduced pressure increases life-span.

The vane pump forms a compact unit in combination with flange and e-motor. The design with two opposing pressure chambers prevents lateral forces working on the drive shaft. The pump cartridge design is suitable for drop-in installation. It is particularly modification and service friendly. The wide range of designs (displacement, shaft, connections, etc.) offers the best preconditions for individual solutions tailored to a customer's requirements.

**Features**

- High volumetric efficiency
- Low noise design
- High mechanical efficiency (generally over 94 %)
- Wide speed range (300–3000 rpm)
- Low pressure pulsation ( $\pm 2$  bar) reduces pipe noise
- Impervious to particle contamination thanks to the double lip design

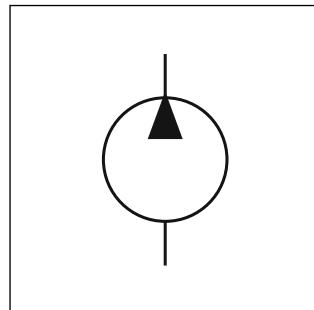
**Technical data**

Pump code	Displacement [cm³/U]	min. speed <sup>1)</sup> [1/min]	max. speed [1/min]	Flow rate (1500 1/min. p 140 bar) [l/min]	max. operating pressure. permanent [bar]	max. operating pressure. temporary [bar]
A0006 - A0022	5.8 - 22.5	300	3000	7.0 - 31.5	275	300
A0025	24.9	300	3000	36	240	275
B0009 - B0010	28 - 31.8	300	3000	40.3 - 46	290	320 <sup>1)</sup>
B0011 - B0014	35 - 45	300	3000	50.8 - 65.8	275	300
B0015	50	300	2700	73.3	240	280
D0017 - D0031	55 - 99.2	300	3000	75.9 - 142.2	250	300
D0035 - D0038	113.4 - 120.6	300	3000	163.5 - 174.3	250	280
D0042	137.5	300	2700	199.6	230	260
E0042 - E0072	132.3 - 227.1	300	2200	132.3 - 227.1	210	240

Internal leakage depending on pressure, speed and pump cartridge. All values applying for standard mineral oil.  
For more information see catalogue HY29-0001.

<sup>1)</sup> Applies to max. operating pressure only.

<sup>2)</sup> Please consult Parker for applications over 300 bar.

**Drive Controlled Pump****Temporary maximum pressure**

The unit T7 can be operated briefly at higher pressures than the operating pressure recommended for continuous operation if the average pressure per time unit is lower than or equal to the pressure for continuous operation. The calculation formula for the temporary maximum pressure only applies when taking the other parameters into consideration – speed, operating fluid, viscosity and degree of contamination. For a total cycle duration of over 15 minutes, please get in contact with your Parker representative.

Example: B0010

Work cycle	4 mins at 320 bar
	1 mins at 35 bar
	5 mins at 160 bar

$$\frac{(4 \times 320) + (1 \times 35) + (5 \times 160)}{10} = 211.5 \text{ bar}$$

211.5 bar is lower than the operating pressure of 290 bar permitted for the continuous operation of B0010 with an HLP46 operating medium.

## Axial Piston Pumps

Parker axial piston pumps are particularly characterized by their low noise level based on low pulsation and a rigid housing. Drops in flow that are common when operating a positive displacement pump during the compression phase are reduced by employing a pre-compression volume. In this case, the low-pressure piston is brought to operating pressure prior to entry in the pressure kidney. As soon as the piston is in the pressure range, it connects the system and pre-compression volume and refills the oil required for compressing the next piston.

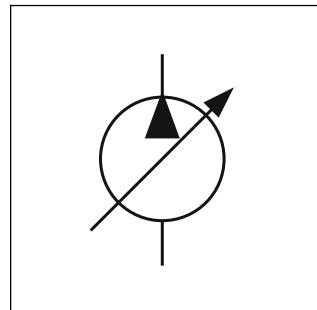
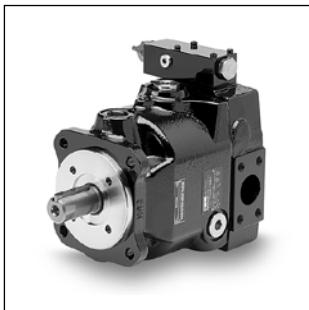
In addition to significant noise reduction, axial piston pumps offer further advantages such as high efficiency, since the holding down of the pistons works without springs and with a fixed recess. They are also installation and maintenance-friendly. The axial piston pumps feature a drive shaft for single and multiple pumps.

The optimized pump design allows to keep high operating pressures up to 350 bar even at near zero speed for a longer period.

### Features

- Low noise
- Short control response times
- Service friendly
- High self-priming speed
- Compact design
- The drive for 100 % nominal torque

## Drive Controlled Pump



### Pressure-regulated pumps with proportional pilot valve

The PVACRE..35-type proportional pilot valve is installed on the top of the controller. The electronic module PCD00A-400 which is required for operation is included in delivery.

This version enables a variable setting of the regulated pressure between 20 and 350 bar via an electrical signal.

### Dual-Displacement Pump

Size 2 (46 ccm), 3 (92 ccm) and 4 (180 ccm) are also available as dual-displacement version. Minimum and maximum displacement volume can be mechanically and steplessly adjusted by two adjustment spindles. An on/off-valve is used for switching between the two displacement volumes.

### Technical data

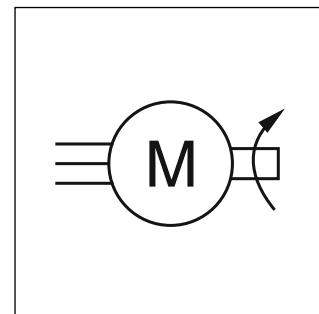
Pump code	Displacement max. [cm <sup>3</sup> /U]	Flow rate (1500 1/min) [l/min]	Nominal pressure [bar]	Max. pressure p <sub>max</sub> 20 % of work cycle [bar]	Min. input pressure absolute [bar]	Max. speed at input pressure 1 bar absolute [1/min]
PV016	16	24				3000
PV020	20	30				3000
PV023	23	34.5				3000
PV028	28	42				3000
PV032	32	48				2800
PV040	40	60				2800
PV046	46	69				2800
PV063	63	94.5				2800
PV080	80	120				2500
PV092	92	138				2300
PV140	140	210				2400
PV180	180	270				2200
PV270	270	405				1800
PV360	360	540				1750

For more information see catalogue HY30-3245

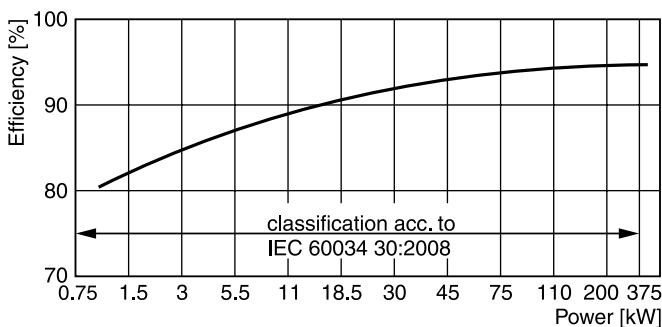
**Standard Asynchronous Motors****Drive Controlled Pump**

The standard asynchronous motors are characterized by their versatility, robustness and high efficiency. They fulfill the IE2 efficiency standard (high efficiency), and therefore allow large energy savings and conserve the environment. The design offers maximum flexibility and minimum cost when installing. The comparably low weight also has a positive effect on the overall weight of the assembly.

In principle, all motors can be operated on the drive at mains voltages of up to 460 V +10 %. Operating within a power range of 1.5 to 250 kW, the motors have been designed for all markets around the world. In order to achieve the best possible design, a mix of highly conductive materials is used in the rotor. The result is minimized rotor losses and excellent start-up performance.

**Features**

- Long life-span as a result of the simplicity and robustness of the components
- Thermistor motor protection included
- Longer motor life-span thanks to lower winding temperatures in terms of the rated load and power supply
- High overload reserves in continuous operation
- Low weight

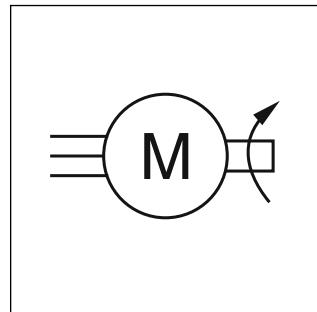
**IE2 efficiency 4-pole 50 Hz****Technical data** (nominal voltage 400 VAC / 50 Hz)

Code N	Rated power [kW]	Rated speed [1/min]	Efficiency factor	Rated current [A]	Rated torque [Nm]	Weight [kg]	Max. speed [1/min]	Max. torque [Nm]
1P5	1.5	1435	0.79	3.3	10	16	4200	34
2P2	2.2	1455	0.81	4.65	14	32	4200	46
003	3	1455	0.82	6.2	20	37	4200	62
004	4	1460	0.81	8.2	26	46	4200	83
006	5.5	1465	0.8	11.3	36	61	4200	104
008	7.5	1465	0.83	14.7	49	75	4200	142
011	11	1470	0.85	21	71	96	4200	198
015	15	1475	0.85	28	97	104	4200	291
019	18.5	1465	0.84	35	121	160	4200	411
022	22	1465	0.84	41.5	143	170	4200	500
030	30	1475	0.85	55	195	225	4200	604
037	37	1470	0.87	66	240	285	4500	720
045	45	1475	0.87	80	291	315	4500	902
055	55	1480	0.85	100	355	390	3700	1065
075	75	1485	0.87	132	482	560	3000	1397
090	90	1486	0.87	159	578	640	2600	1791
110	110	1490	0.86	195	705	750	2600	2115
132	132	1488	0.87	230	847	870	2600	2456
160	160	1488	0.87	280	1027	950	2600	3081
200	200	1490	0.87	350	1282	1120	2600	3974
250	250	1488	0.87	435	1605	1270	2600	5136

**Synchronous Motors****Drive Controlled Pump**

The MH series of high dynamic, brushless motors from Parker provides generously-sized mechanical components and low inertia. Thanks to the high quality of the Neodymium-Iron-Boron magnets and the encapsulation technique which is used to fasten them to the shaft, these motors can achieve high acceleration and withstand high overload without risking the demagnetization or detachment of the magnets.

Due to the many different shaft and flange sizes available for all models, a suitable motor can be selected for most customer requirements.

**Features**

- Protection class IP64
- Ambient temperature -10/+40 °C
- Rated torque 4.3 to 280 Nm
- High power density
- Lifetime-lubricated ball bearings
- Convection cooling, fan as option available

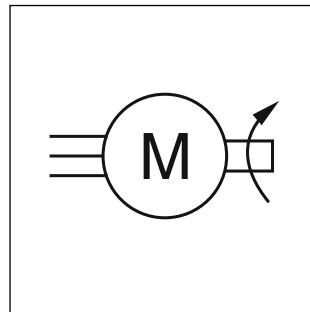
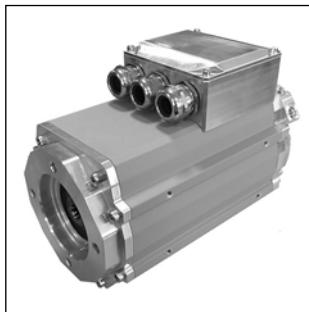
**Technical data**

Code	Rated power [kW]	Rated speed <sup>1)</sup> [1/min]	Rated current [A]	Rated torque [Nm]	Max. torque [Nm]	Torque constant kT [Nm/A]
1P4 C	1.3	3000	3.2	4.3	28	1.42
2P5 C	2.5	3000	4.8	7.8	49	1.70
004 C	3.9	3000	7.4	12.5	86	1.78
4P1 C	5.4	3000	10.1	17.3	117	1.80
6P6 C	6.7	3000	12.5	21.3	143	1.78
4P2 C	4.7	3000	9.1	15.0	69	1.74
008 C	8.1	3000	18.0	25.7	123	1.50
013 C	13.1	3000	26.8	41.7	222	1.63
016 C	16.4	3000	33.7	52.3	310	1.63
019 C	19.3	3000	39.7	61.6	398	1.63
027 C	27.3	3000	55.0	87.0	235	1.57
045 C	45.2	3000	92.0	144.0	451	1.57
058 C	58.1	3000	118.0	185.0	657	1.57
068 C	67.5	3000	137.0	215.0	857	1.57
1P4 F	1.8	3000	4.1	5.6	28	1.42
2P5 F	3.2	3000	6.3	10.3	49	1.70
004 F	5.2	3000	9.7	16.5	86	1.78
4P1 F	6.8	3000	13.1	21.5	117	1.80
6P6 F	8.6	3000	16.2	27.4	143	1.78
4P2 F	6.1	3000	11.7	19.3	69	1.74
008 F	10.5	3000	23.4	33.4	123	1.50
013 F	17.0	3000	34.9	54.2	222	1.63
016 F	21.4	3000	43.8	68.0	310	1.63
019 F	25.2	3000	51.6	80.1	398	1.63
027 F	35.5	3000	66.7	113.1	235	1.78
045 F	58.8	3000	110.4	187.2	451	1.78
058 F	75.6	3000	141.9	240.5	657	1.78
068 F	87.8	3000	164.9	279.5	857	1.78

For more information see catalogue 192-061012 and 192-061013.

<sup>1)</sup> 2000 1/min on request.

GVM motors are brushless synchronous servo motors with water or oil cooling system and resolver or encoder as speed sensor. The permanent magnet motors provide higher efficiency than induction motors of the same power range. The liquid cooling system improves the torque curve and enables a low-noise operation. A gore vent avoids condensation in case of sudden temperature variation or during storage at low temperature.



### **Advantages**

- High power density
- Excellent speed characteristics
- High dynamics
- Low inertia moment
- High precision
- Very robust: shock-proof, vibration-proof, salt spray resistant

### **Features**

- IP67 standard
- Ambient temperature -40/+40 °C
- Rated torque 50 to 460 Nm
- Lifetime-lubricated bearings
- Liquid cooling system: cooling media water, oil, HFC

### **Technische Daten<sup>1)</sup>**

Water cooling with max. inlet temperature 25 °C

Code	Rated power [kW]	Rated speed [1/min]	Rated current [A]	Rated torque [Nm]	Max. torque [Nm]	Torque constant kT [Nm/A]	Cooling medium (p < 5 bar) [l/min]
014	13.6	2670	27.8	48.6	60	1.76	1.6
028	28.2	2450	59.5	110	142	1.86	3.1
064	63.7	2660	135	229	265	1.7	6.0
090	90.7	2510	193	345	395	1.79	8.3
114	114	2370	239	458	536	1.92	10.4

Oli cooling with max. inlet temperature 65 °C

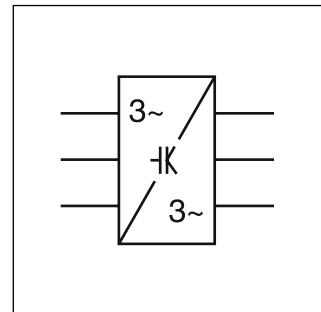
Code	Rated power [kW]	Rated speed [1/min]	Rated current [A]	Rated torque [Nm]	Max. torque [Nm]	Torque constant kT [Nm/A]	Cooling medium (p < 5 bar) [l/min]
014	11.5	2870	21.6	38.1	60	1.78	2.2
028	24.0	2650	45.9	86.3	142	1.9	4.2
064	53.7	2870	103	179	265	1.75	8.0
090	76.5	2720	147	269	395	1.84	11.2
114	94.6	2530	182	358	536	1.98	13.8

<sup>1)</sup> For other cooling media and cooling temperatures please contact Parker.

As a component of the Drive Controlled Pump, the AC30V series covers the entire spectrum of speed-regulated applications for asynchronous and synchronous motors. It has been designed to provide users the optimum control of pump applications with high dynamics and numerous options of control.

The AC30 has been designed with simplicity in mind, but this doesn't compromise its functionality. The flexible and modular design provides a wide range of communication options. E/A-modules can be added easily if required. Modules that are required for the Drive Controlled Pump are equipped ex works.

The setup of the Drive Controlled Pump can be done via graphical key pad or by using the pc software PDQ.



## Features

- Integrated hydraulic functions
- Graphical key pad
- Integrated web server
- Sensorless vector control
- Safety torque off
- Software tool for configuration, commissioning, optimisation, programming and maintenance
- Fieldbus communication with open standards:
  - CANopen
  - DeviceNet
  - PROFIBUS
  - PROFINET
  - EtherCAT
  - Ethernet IP

The following operation modes are available:

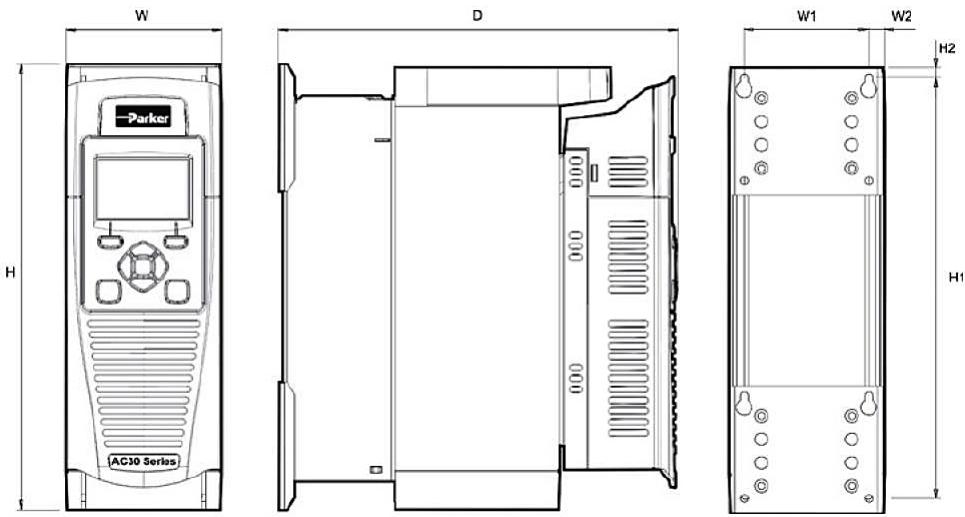
- Flow control
- Pressure control <sup>1)</sup>
- Alternating flow rate / pressure control (P/Q) <sup>1)</sup>
- eLCP (electronic load control) <sup>1)</sup>
- Accumulator charging mode <sup>1)</sup>
- Master-slave operation of several Drive Controlled Pumps

## Technical data

Electrical Characteristics		
Rated Input Voltage	[V]	3 x 380...480 ±10 %
Input Frequency	[Hz]	45...65
Maximum Switching Frequency	[kHz]	4...12 max. (acc. derate output )
Overload: Heavy Duty	[%]	150 for 60 s, 180 for 3 s
Overload: Normal Duty	[%]	110 for 60 s, 180 for 3 s heavy duty FLC
	[Hz]	0...500 at 4 kHz switching frequency
Output Frequencies	[Hz]	0...1000 at 8 kHz switching frequency
	[Hz]	0...1500 at 12 kHz switching frequency
Environmental Characteristics		
Operating Temperature	[°C]	0...+40 (normal duty), 0...+45 (heavy duty) 0...+50 (derate output)
Operating Humidity, max	[%]	85 bei 40 °C
Protection class		IP 20
Altitude	[m]	1000 over NN, derate output by 1 % per 100 m to max. 2000 m
Atmosphere		Non-flammable, non-corrosive and dust free
Climatic conditions		Class 3k3, as defined by EN60721-3-3

<sup>1)</sup> Pressure transducer is required (not included in delivery).

## Dimensions

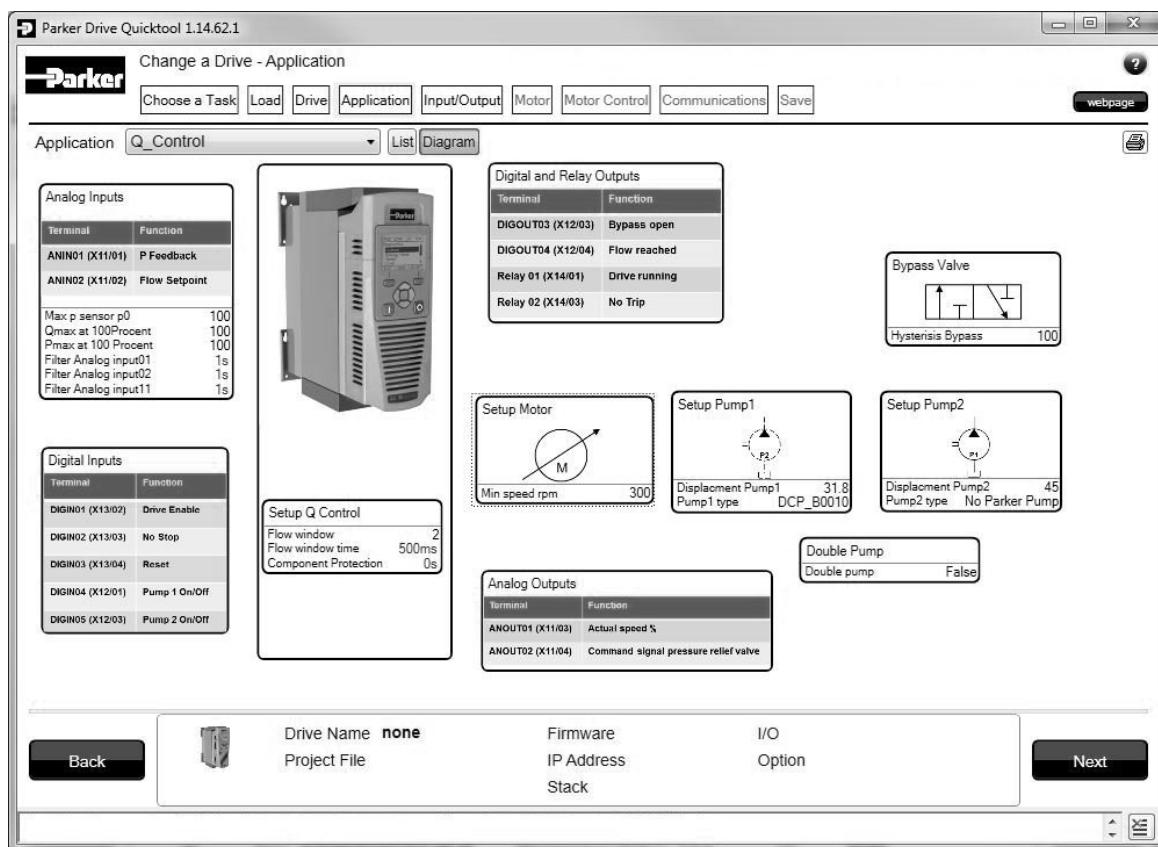


Code	Model	Weight [kg]	Dimensions [mm]							Fixings
			H	H1	H2	W	W1	W2	D	
3P5 - 012	Frame D	4.5	286	270	6.5	100	80	10.0	255	Slot 4.5 mm wide. Use M4 fixings
016 - 023	Frame E	6.8	333	320	6.5	125	100	12.5	255	
032 - 038	Frame F	10.0	383	370	6.5	150	125	12.5	255	
045 - 073	Frame G	22.3	480	465	7.25	220	190	13.0	287	Slot 5.0 mm wide. Use M5 fixings
087 - 145	Frame H	42.8	670	650	10.0	260	220	20.0	316	Slot 6.8 mm wide. Use M6 fixings
180 - 260	Frame J	89.0	800	780	10.0	330	285	23.0	374	Slot 9.0 mm wide. Use M8 fixings
315 - 440	Frame K	125.0	1310	1282	15.0	400	280	60.0	457	Use M10 fixings

**Commissioning Software**

For the commissioning of the AC30V, Parker offers a simple-to-use software tool for programming, monitoring and diagnostics of the AC drives from Parker with the aid

of a graphical user interface. This enables the user to easily create, parameterize and configure user-defined applications.



The AC30V drive can easily be configured and put into operation via graphical key pad or by using the pc software PDQ.

- Select operation mode
- Select the pump via ordering code
- Enter pressure sensor parameters
- Enter motor data provided on the motor rating plate
- Setting of the pressure regulator
- Save/clone the configuration settings via optional SD card is possible

Drive Controlled Pump units consisting of motor and pump are directly ready-for-use since motor and pump parameters are already set ex works.

The following settings for programming functions are possible:

- Accumulator charging mode
- eLCP (electronic load control)
- Analogue setpoint selection for volume flow and/or pressure
- Setpoint selection for volume flow and/or pressure via CANopen/DeviceNet/PROFIBUS DP/PROFINET etc.

The following diagnostics functions are available:

- Current pressure, volume flow and performance values are on constant display
- Reading or setting digital inputs and outputs
- Graphical presentation with zoom and save functions

For more information see catalogue 190-490323

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