

# Axial piston fixed motor A2FE series 6x



- ▶ High pressure motor for integration in mechanical gearboxes
- ▶ Size 28 ... 355
- ▶ Nominal pressure up to 400 bar
- ▶ Maximum pressure up to 450 bar
- ▶ Open and closed circuits
- ▶ High pressure motor for integration in mechanical gearboxes
- ▶ Open and closed circuits

## Features

- ▶ Space-saving construction due to recessed mounting flange
- ▶ Easy to install, simply slide into the mechanical gearbox
- ▶ High power density
- ▶ Very high total efficiency
- ▶ High starting efficiency
- ▶ Optional with integrated pressure relief valve
- ▶ Optional with mounted additional valve: counterbalance valve (BVD/BVE), flushing and boost-pressure valve
- ▶ Bent-axis design

## Inhalt

Type code	2
Technical data	4
Dimensions	10
Extended functions and versions	14
Project planning information	22
Safety Instructions	24
Accessories	24

## Type code

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
	<b>A2F</b>		<b>E</b>		<b>/</b>	<b>6</b>		<b>W</b>	<b>-</b>	<b>V</b>				

### Hydraulic fluid

01	Mineral oil and HFD. HFD for sizes 250 to 355 only in combination with long-life bearing "L" (without code)	
	HFB-, HFC-hydraulic fluid	Sizes 28 to 180 (without code)
		NG250 bis 355(nur in Verbindung mit Long-Life Lagerung "L")
		<b>E-</b>

### Axial piston unit

02	Bent-axis design, fixed	<b>A2F</b>
----	-------------------------	------------

### Drive shaft bearing

		28-180	250-355	
03	Standard bearing (without code)	•	•	
	Long-life bearing	-	•	<b>L</b>

### Operating mode

04	Motor, plug-in version	<b>E</b>
----	------------------------	----------

### Sizes (NG)<sup>1)</sup>

05	Geometric displacement in cm <sup>3</sup> /U								
		<b>28</b>	<b>32</b>	<b>107</b>	<b>125</b>	<b>160</b>	<b>180</b>	<b>250</b>	<b>355</b>

### Series

06		<b>6</b>
----	--	----------

### Index

07		size 28 to 180	<b>1</b>
		size 250 to 355	<b>0</b>

### Direction of rotation

08	Viewed on drive shaft, bidirectional	<b>W</b>
----	--------------------------------------	----------

### Seal material

09	FKM (fluoroelastomer)	<b>V</b>
----	-----------------------	----------

### Drive shaft

		28	32	107	125	160	180	250	355	
10	Splined shaft DIN 5480	•	•	•	•	•	•	-	-	<b>A</b>
		•	-	•	-	•	-	•	•	<b>Z</b>

### Mounting flange

		28-180	250-355	
11	ISO 3019-2			
	2-whole	•	-	<b>L</b>
	4-whole	-	•	<b>M</b>

• = Available    ◦ = On request    - = Not available

<sup>1)</sup> Sizes 45, 56, 63, 80, 90 see data sheet 91071 (A2FE series 70)

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
	<b>A2F</b>		<b>E</b>		<b>/</b>	<b>6</b>		<b>W</b>	<b>-</b>	<b>V</b>				

**Working ports**
**28 32 107 125 160 180 250 355**

12	SAE working ports <b>A</b> and <b>B</b> at side, opposite	<b>02</b>	0	-	-	-	-	-	-	-	●	-	<b>020</b>
			7	-	-	●	●	●	●	●	●	-	<b>027</b>
	SAE working port <b>A</b> and <b>B</b> bottom (same side)	<b>10</b>	0	●	●	●	●	●	●	-	-	●	<b>100</b>
			7	-	-	-	-	-	-	-	-	●	<b>107</b>
	Port plate with pressure relief valves for mounting a counterbalance valve	BVD <b>17</b>	1	-	-	●	●	-	-	-	-	-	<b>171</b>
				-	-	●	●	●	●	-	-	<b>178</b>	
			8	●	●	●	●	●	●	-	-	<b>181</b>	
				-	-	●	●	●	●	- <sup>1)</sup>	-	<b>188</b>	
	Port plate with pressure-relief valves	<b>19</b>	1	●	●	●	●	●	●	-	-	<b>191</b>	
			2	●	●	●	●	●	●	-	-	<b>192</b>	

**Valves**

Without valve	<b>0</b>
Pressure-relief valve (without pressure boost facility)	<b>1</b>
Pressure-relief valve (with pressure boost facility)	<b>2</b>
Flushing and boost pressure valve, mounted	<b>7</b>
Counterbalance valve BVD/BVE mounted <sup>2)</sup>	<b>8</b>

**Speed sensor**
**28-32 107-180 250 355<sup>1)</sup>**

13	Without speed sensor	●	●	●	●	
	Prepared for DSA speed sensor	●	●	○	-	<b>U</b>
	DSA speed sensor mounted <sup>3)</sup>	●	●	○	-	<b>V</b>

**Special version** (only sizes 28 to 180)

14	Standard version (without code)	
	Special version for slew drives (standard port plate 19)	<b>J</b>

**Standard / special version**

15	Standard version (without code)	
	Standard version with installation variants, e.g. <b>T</b> ports against standard open or closed	<b>-Y</b>
	Special version	<b>-S</b>

● = Available    ○ = On request    - = Not available

<sup>1)</sup> Please contact us.

<sup>2)</sup> Specify ordering code of counterbalance valve according to data sheet 95522 (BVD) respectively data sheet 95526 (BVE) separately.

<sup>3)</sup> Specify ordering code of sensor according to data sheet 95133 (DSA) separately.

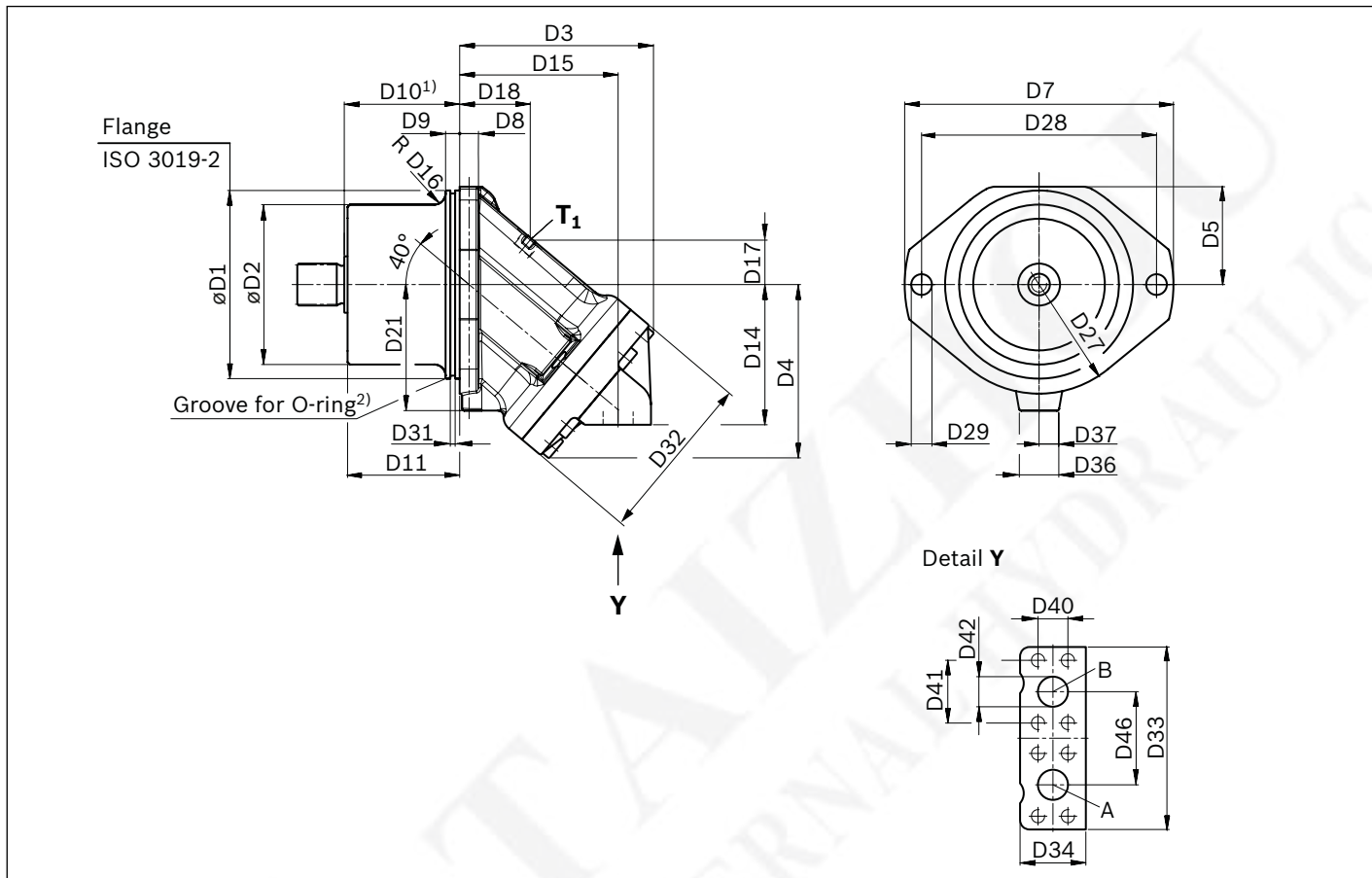
**Notice**

- ▶ Please note the project planning notes in chapter Project planning notes
- ▶ Please note that not all type code combinations are available although the individual functions are marked as being available

## Dimensions

### Size 28 ... 180

#### Port plate 10



1) To shaft collar

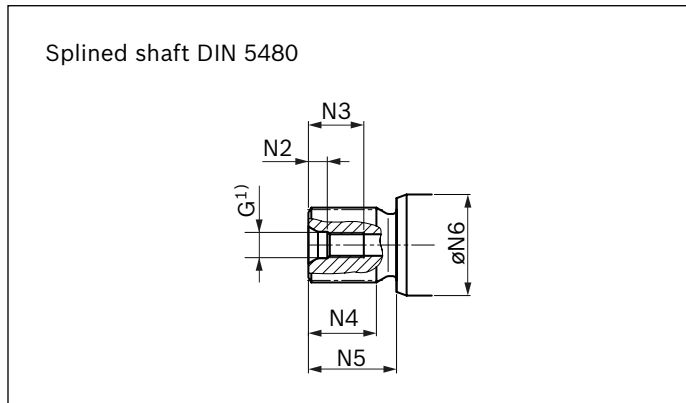
2) The O-ring is not included in the delivery contents.

Size	D1	D2	D3	D4	D5	D7	D8	D9	D10	D11	D14	D15	D16	D17	D18	D21	D27	D28	D29
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
<b>28, 32</b>	135 <sup>0</sup> <sub>-0.025</sub>	94	114	106	71	188	16	15	88.8	87.1	91	94	10	27	45	95	154	160	14
<b>107, 125</b>	200 <sup>0</sup> <sub>-0.029</sub>	152.3	178	157	103	286	20	15	122.8	119	136	143	16	41	58	135	232	250	22
<b>160, 180</b>	200 <sup>0</sup> <sub>-0.029</sub>	171.6	206	185	104	286	20	15	122.8	119.3	149	169	12	47	75	134	232	250	22

Size	D31	D32	D33	D34	D36	D37	D40	D41	D42	D46	O-Ring
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
<b>28, 32</b>	5.2	106	115	40	42	13	18.2	40.5	13	59	Ø126 × 4
<b>125, 107</b>	5.2	150	194	70	40	0	31.8	66.7	32	99	Ø192 × 4
<b>160, 180</b>	5.2	180	194	70	42	0	31.8	66.7	32	99	Ø192 × 4

#### Note

- The dimensional drawings of the port plates with valves can be found in the chapter "Extended functions and versions".

**Drive shafts Z and A**


<sup>1)</sup> Center bore according to DIN 332 (thread according to DIN 13)

**Splined shaft DIN 5480**

NG	Code	Designation	Thread G	N2	N3	N4	N5	ØN6
				mm	mm	mm	mm	mm
28	Z	W25×1.25×18×9g	M8 × 1.25	6	19	28	43	35
	A	W30×2×14×9g	M10 × 1.5	7.5	22	27	35	35
32	A	W30×2×14×9g	M10 × 1.5	7.5	22	27	35	35
107	Z	W40×2×18×9g	M12 × 1.75	9.5	28	37	45	50
	A	W45×2×21×9g	M16 × 2	12	36	42	50	50
125	A	W45×2×21×9g	M16 × 2	12	36	42	50	50
160	Z	W45×2×21×9g	M16 × 2	12	36	42	50	60
	A	W50×2×24×9g	M16 × 2	12	36	44	55	60
180	A	W50×2×24×9g	M16 × 2	12	36	44	55	60

**Ports**

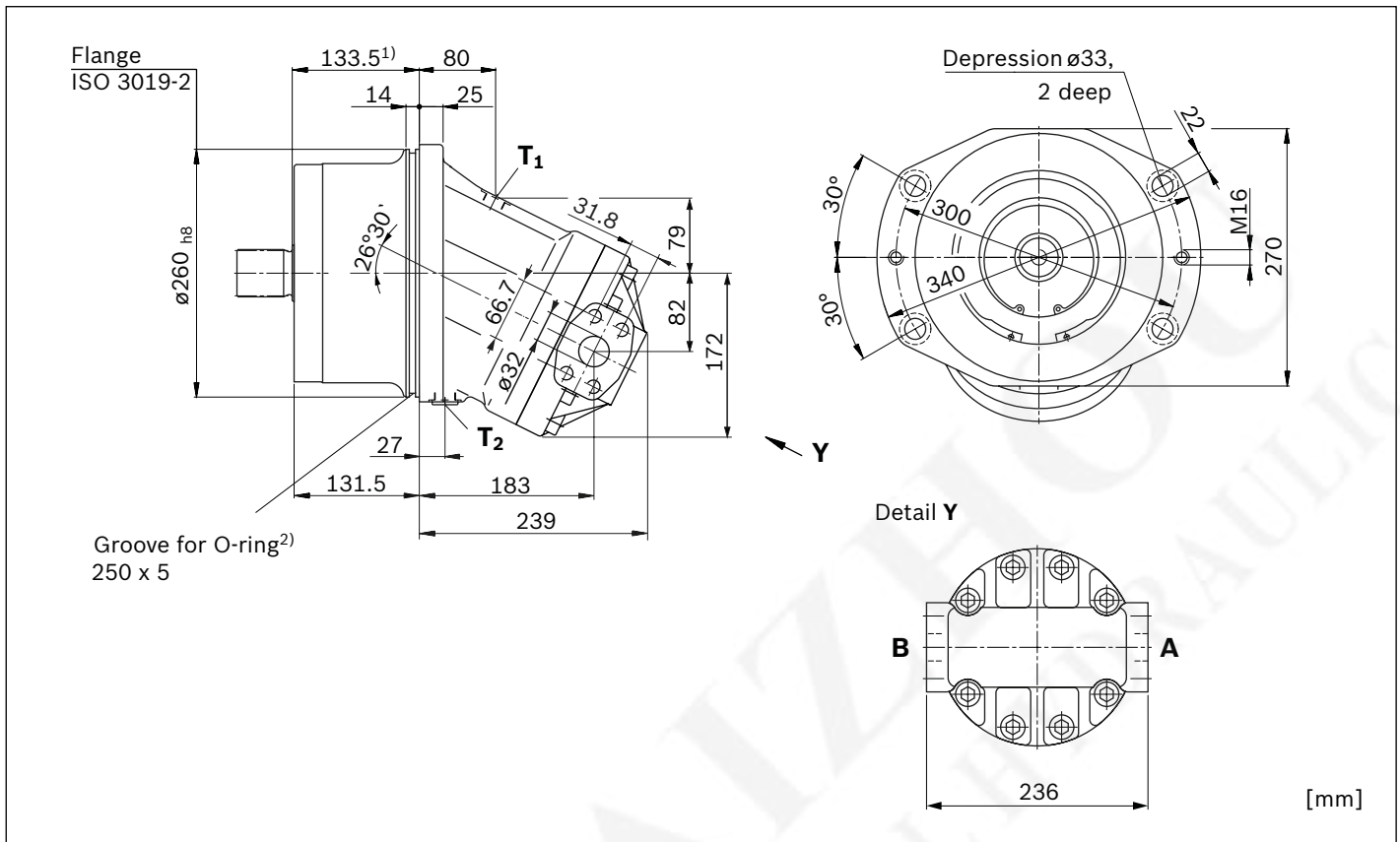
Size		28	32	107	125	160	180
A, B	Working port	Size	1/2 in		1 1/4 in		
	Standard	Dimensions according to SAE J518					
	Fastening thread <sup>1)</sup>	M8 × 125; 15 mm deep		M14 × 2; 19 mm deep			
	State on delivery	With protective cover (must be connected)					
T <sub>1</sub>	Drain port	Size	M16 × 15; 12 mm deep	M18 × 15; 12 mm deep	M22 × 15; 14 mm deep		
	Standard <sup>2)</sup>	DIN 3852					
	State on delivery <sup>3)</sup>	Plugged (observe installation instructions)					

<sup>1)</sup> Thread according to DIN 13

<sup>2)</sup> The spot face can be deeper than specified in the appropriate standard.

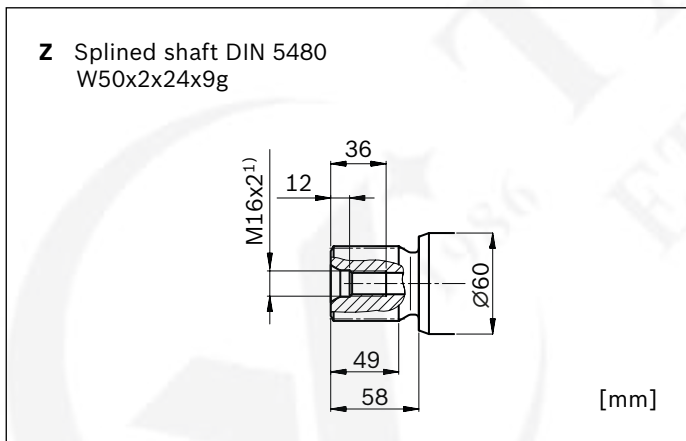
<sup>3)</sup> Unless otherwise specified. Other layouts on request.

**Size 250**



<sup>1)</sup> To shaft collar

<sup>2)</sup> The O-ring is not included in the delivery contents.



<sup>1)</sup> Center bore according to DIN 332 (thread according to DIN 13)

**Ports**

Size		250
A, B	Working port	Size 1 1/4 in
	Working port	Standard Dimensions according to SAE J518
		Fastening thread <sup>1)</sup> M14 x 2; 19 mm deep
		State on delivery With protective cover (must be connected)
T <sub>1</sub>	Drain port	Size M22 x 15; 14 mm deep
	Drain port	Standard <sup>2)</sup> DIN 3852
		State on delivery <sup>3)</sup> With protective cover (observe installation instructions)
T <sub>2</sub>	Drain port	Size M22 x 15; 14 mm deep
	Drain port	Standard <sup>2)</sup> DIN 3852
		State on delivery <sup>3)</sup> Plugged (observe installation instructions)

<sup>1)</sup> Thread according to DIN 13

<sup>2)</sup> The spot face can be deeper than specified in the appropriate standard.

<sup>3)</sup> Unless otherwise specified. Other layouts on request.

