

**More Power.
Less Weight.**

WD-E **Alu Line**

**The Next
Generation of
Slew Drives**



In IMO development and research, engineers have implemented customer requirements and developed a new generation of the worm-driven slewing drive series: **The WD-E Alu Line series.**

Designed, calculated, and engineered using the finite element method. Subjected to a multitude of challenging tests on the test bench.

30% Higher Torque*

Alu Line 0343

Standard 0343

20% Less Weight

Alu Line 0343

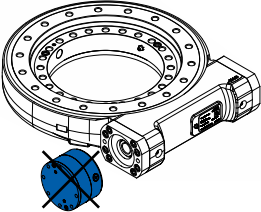
Standard 0343

300% Longer Gear Life*

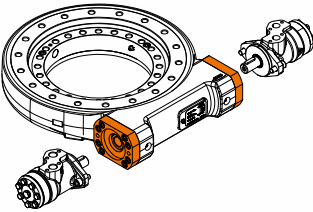
Alu Line 0343

Standard 0343

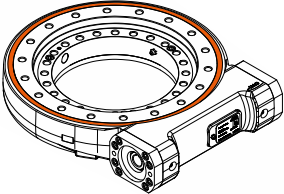
No Brake Necessary**



Motor possible on both sides



Optimized Sealing



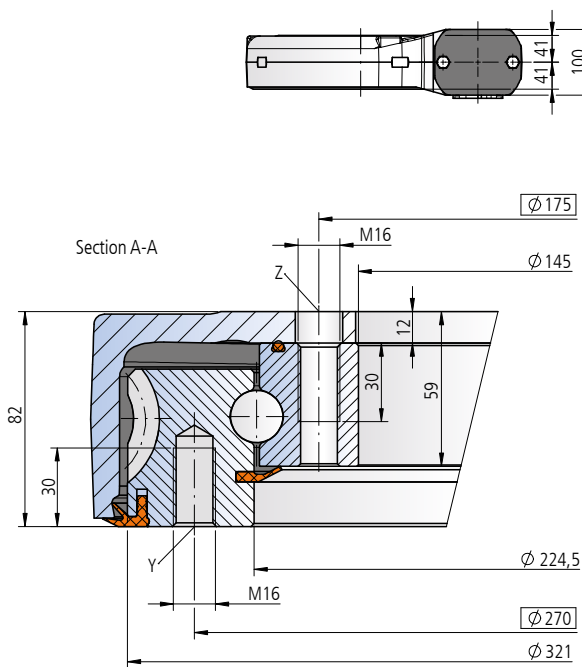
* at reference base 10,150 Nm nom. torque

** applies to the single start version

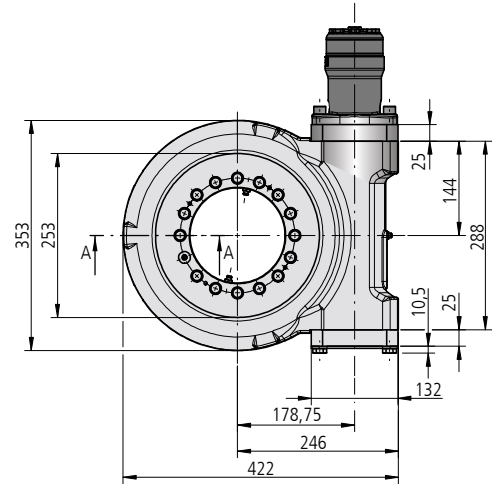
Comparison in Detail	WD-E series Alu Line 0343 Single Start	WD-E series Alu Line 0343 Dual Start	WD-L series 0343 Standard
Performance Max. / Nom. Torque Max. Holding Torque	13.000 / 13.000 Nm 15.400 Nm	13.000 / 13.000 Nm 15.400 Nm	12.905 Nm / 10.150 Nm 12.905 Nm
Housing	Aluminum	Aluminum	Cast Iron
Weight (without Motor)	51,5 kg	51,5 kg	62 kg
Gearing Operational Life Time (Safety factor against wear $S_w = 1$ at $n = 1 \text{ min}^{-1}$)	1577 Hours at 10.150 Nm 960 Hours at 13.000 Nm	2080 Hours at 10.150 Nm 1266 Hours at 13.000 Nm	500 Hours at 10.150 Nm
Shock Resistance Worm Bearing	★★★★★	★★★★★	★★★★
Motor possible on both sides	Yes	Yes	No
Self-locking	Yes. No brake necessary.	No. Additional brake necessary.	No. Additional brake necessary.
Position of the output shaft	Vertical ¹⁾	Freely to choose	Freely to choose
Sealing	★★★★★	★★★★★	★★★★

1) Please refer to our additional information in the "Technical Information" section of our catalog.

Size WD-E 0223 / ALU Housing / 1 Row / One Start / Dual Start / 1 Drive



The mounting structure must support the housing to at least $\varnothing 223$ and at most to $\varnothing 308$



Mounting holes

Y = 16 drill holes M16-30 deep, evenly distributed

Z = 15 drill holes $\varnothing 18-12$ deep / M16-30 deep, evenly spaced over 16 pitch

Lubricating ports

2 conical grease nipples on internal diameter

3 conical grease nipples on housing exterior

Slew drive supplied pre-lubricated

Drawing number WD-E 0223/3-14622

Drawing number WD-E 0223/3-14621

Module	m	[mm]	4,5	4,5
Number of starts wormshaft		[-]	1	2
Gear ratio	i	[-]	68	34
Self-locking gears			Yes**	No**
Max. torque	$M_{d \max}$	[Nm]	9.500	9.500
Nom. torque at $n = 1 \text{ min}^{-1}$	$M_{d \text{ nom}}$	[Nm]	8.300	9.500
Max. holding torque (static)	$M_{h \max}$	[Nm]	11.000	11.000*
Static load, radial	$C_{o \text{ rad}}$	[kN]	204	204
Static load, axial	$C_{o \text{ ax}}$	[kN]	547	547
Dynamic load, radial	C_{rad}	[kN]	132	132
Dynamic load, axial	C_{ax}	[kN]	154	154
Weight, slew drive		[kg]	38	38

* Optionally with brake

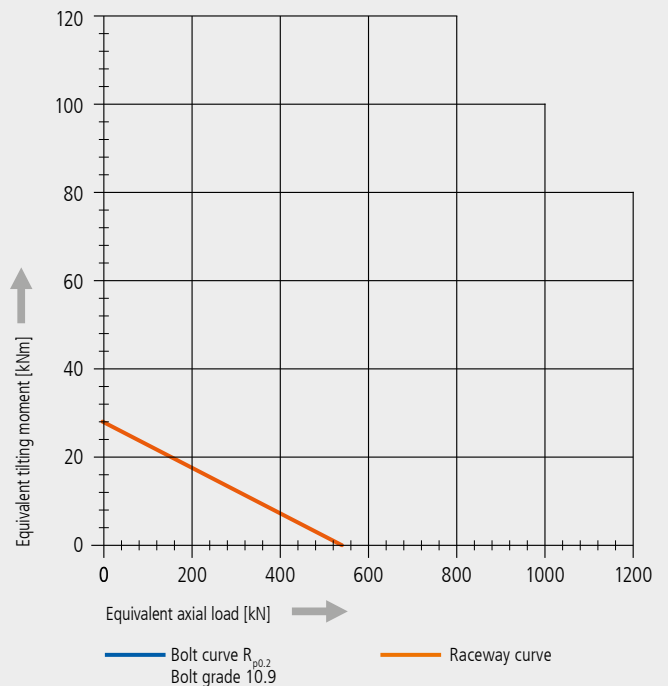
** See: Technical information, section *Self-locking* in Catalog

Selection example:

Performance data with two hydraulic motor

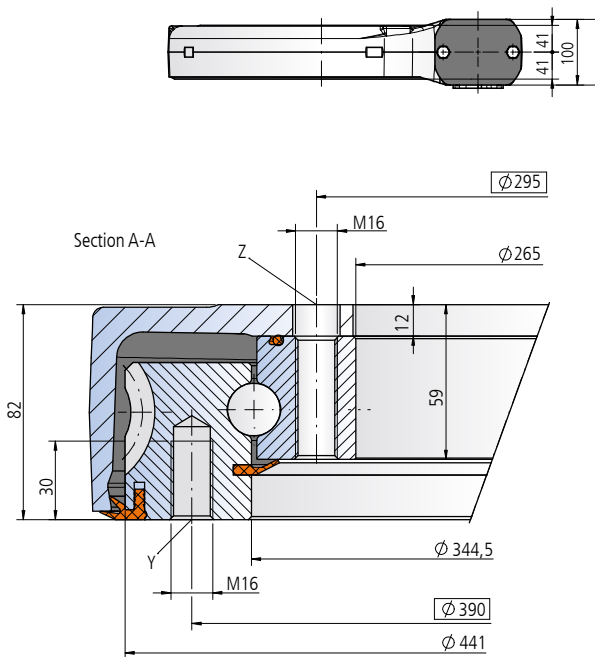
			MPY160	HW235
Pressure differential	Δp	[bar]	155	160
Oil flow	Q	[l/min]	15	11
Output speed	n	[min ⁻¹]	1	1
Max. achievable torque	M_d	[Nm]	9.500	9.500
Weight, motor		[kg]	6	14

Limiting load diagram for compressive loads

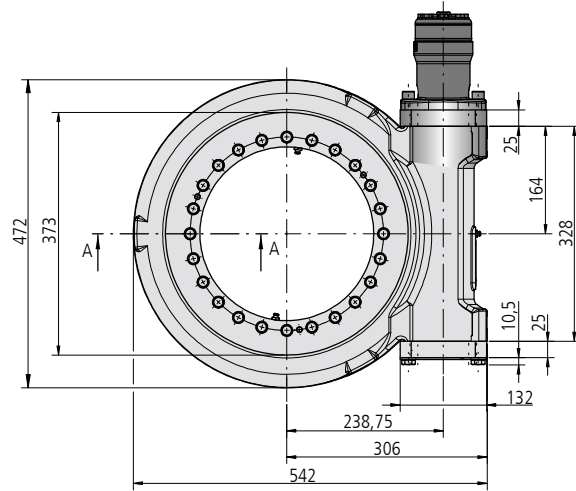


Please always observe the technical information in the catalog!

Size WD-E 0343 / ALU Housing / 1 Row / One Start / Dual Start / 1 Drive



The mounting structure must support the housing to at least $\phi 343$ and at most to $\phi 449$



Mounting holes

Y = 18 drill holes M16-30 deep, evenly distributed

Z = 24 drill holes $\phi 18$ -12 deep / M16, evenly distributed

Lubricating ports

2 conical grease nipples on internal diameter

3 conical grease nipples on housing exterior

Slew drive supplied pre-lubricated

Drawing number WD-E 0343/3-13622				
Drawing number WD-E 0343/3-13621				
Module	m	[mm]	4,5	4,5
Number of starts wormshaft		[-]	1	2
Gear ratio	i	[-]	95	47,5
Self-locking gears			Yes**	No**
Max. torque	M_{d max}	[Nm]	13.000	13.000
Nom. torque at $n = 1 \text{ min}^{-1}$	M_{d nom}	[Nm]	13.000	13.000
Max. holding torque (static)	M_{h max}	[Nm]	15.400	15.400*
Static load, radial	C_{o rad}	[kN]	338	338
Static load, axial	C_{o ax}	[kN]	905	905
Dynamic load, radial	C_{rad}	[kN]	157	157
Dynamic load, axial	C_{ax}	[kN]	183	183
Weight, slew drive		[kg]	51,5	51,5

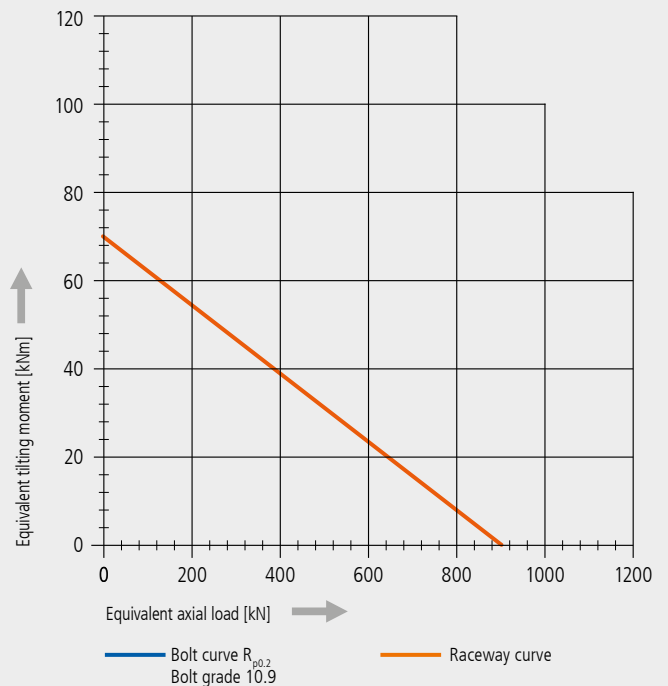
* Optionally with brake

** See: Technical information, section *Self-locking* in Catalog

Selection example:

Performance data with two hydraulic motor			MPY160	HW235
Pressure differential	Δp	[bar]	155	150
Oil flow	Q	[l/min]	20	15
Output speed	n	[min ⁻¹]	1	1
Max. achievable torque	M_d	[Nm]	13.000	13.000
Weight, motor		[kg]	6	14

Limiting load diagram for compressive loads



Please always observe the technical information in the catalog!

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More Power. Less Space.

WD-E Alu Line 0176, 0276 and 0376

The Next Generation of Slew Drives

Standard WD-L slew drives can be replaced with WD-E Alu Line slew drives of the same size AND in many cases, it is also possible to opt for a smaller size without compromising on performance.

The next smaller version of a WD-E offers a comparable load capacity with significantly reduced installation space (e.g. WD-E 0276 instead of a WD-L 0343). The more compact design and the use of an aluminium housing also result in a lower weight, which has a positive impact on the overall construction.

In addition to the technical advantages, the alternative version also offers economic benefits: a smaller WD-E slew drive is more cost-effective than the larger WD-L slew drive, whilst offering the proven characteristics and advantages of all IMO products.

Your benefits at a glance:

- Same load-bearing capacity with reduced installation space
- Lower weight thanks to compact design and aluminium housing
- Economically attractive alternative
- Proven product advantages in an optimised form

Higher Torque*

Alu Line 0276, eingängig	118%
Alu Line 0276, zweigängig	127%
Standard 0343	100%

Reduced Weight

Alu Line 0276, eingängig	73%
Alu Line 0276, zweigängig	73%
Standard 0343	100%

Longer Gear Life*

Alu Line 0276, eingängig	139%
Alu Line 0276, zweigängig	195%
Standard 0343	100%

* at reference base 10,150 Nm nom. torque

A comparative example in detail

Performance

Max. / Nom. Torque
Max. Holding Torque

Housing

Weight (without Motor)

Shock Resistance Worm Bearing

Motor possible on both sides

Self-locking

Self-locking

Sealing

WD-E series Alu Line 0276 Single Start

12.905 / 11.970 Nm
12.905 Nm

Aluminum

44 kg

★★★★★

Yes

Yes.
No brake necessary.

Vertical ¹⁾

★★★★★

WD-E series Alu Line 0276 Dual Start

12.905 / 12.905 Nm
12.905 Nm

Aluminum

44 kg

★★★★★

Yes

No.
Additional brake necessary.

Freely to choose

★★★★★

WD-L Serie 0343 Standard

12.905 Nm / 10.150 Nm
12.905 Nm

Cast Iron

62 kg

★★★★

No

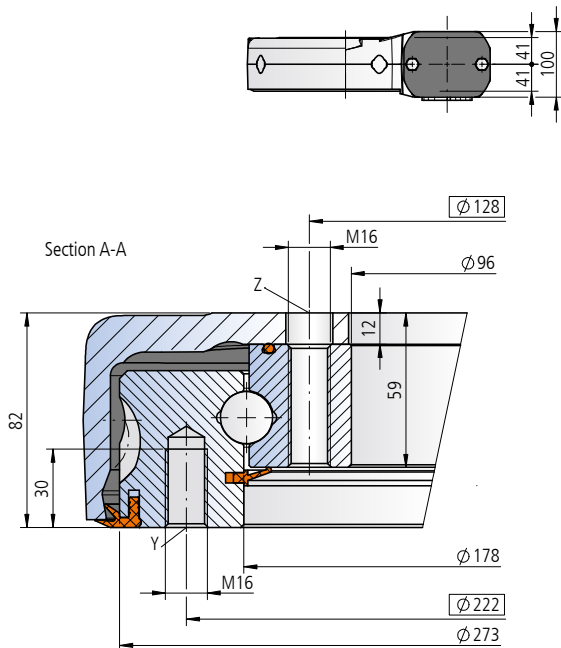
No.
Additional brake necessary.

Freely to choose

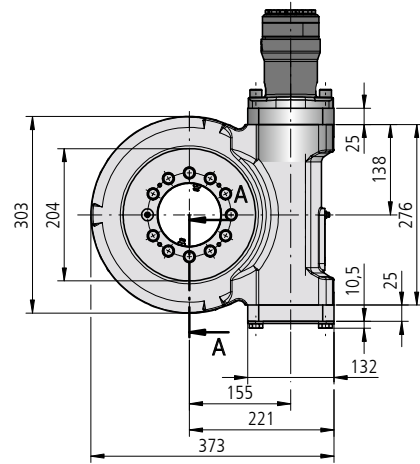
★★★★

1) Please refer to our additional information in the "Technical Information" section of our catalog.

Size WD-E 0176 / ALU Housing / 1 Row / One Start / Dual Start / 1 Drive



The mounting structure must support the housing to at least $\varnothing 176$ and at most to $\varnothing 235$



Mounting holes

Y = 16 drill holes M16-30 deep, evenly distributed

Z = 11 drill holes $\varnothing 18$ -12 deep / M16-30 deep, evenly spaced over 16 pitch

Lubricating ports

2 conical grease nipples on internal diameter

3 conical grease nipples on housing exterior

Slew drive supplied pre-lubricated

Drawing number WD-E 0176/3-14702				
Drawing number WD-E 0176/3-14701				
Module	m	[mm]	4,5	4,5
Number of starts wormshaft		[-]	1	2
Gear ratio	i	[-]	57	28,5
Self-locking gears			Ja**	Nein**
Max. torque***	M_{d max}	[Nm]	7.800	7.800
Nom. torque at $n = 1 \text{ min}^{-1}$	M_{d nom}	[Nm]	5.698	7.112
Max. holding torque (static)***	M_{h max}	[Nm]	7.800	7.800*
Static load, radial	C_{o rad}	[kN]	259	259
Static load, axial	C_{o ax}	[kN]	693	693
Dynamic load, radial	C_{rad}	[kN]	132	132
Dynamic load, axial	C_{ax}	[kN]	154	154
Weight, slew drive		[kg]	32	32

* Optionally with brake

** See: Technical information, section *Self-locking* in Catalog

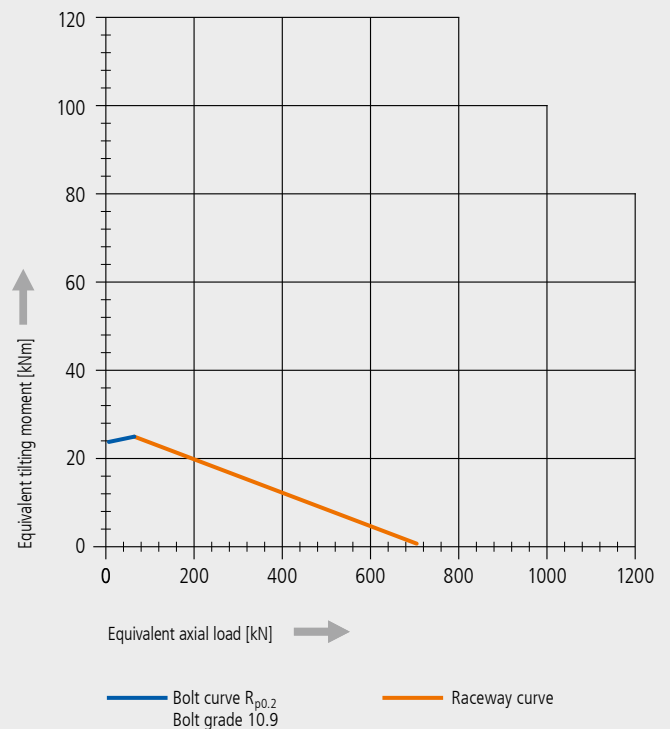
*** Applying Loctite to mounting surface can increase maximum torque to 9303 Nm

The selection of the hydraulic/electric motor is based on actual requirements and customer specifications.

Selection example:

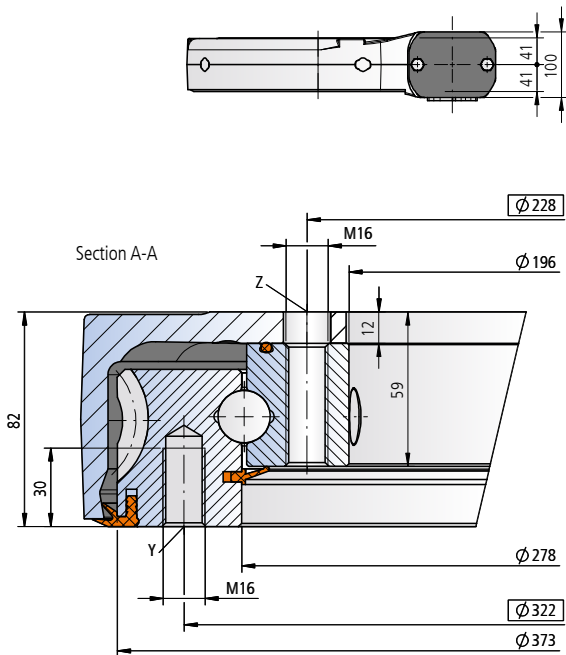
Performance data with two hydraulic motors			MPY160	HW235
Pressure differential	Δp	[bar]	150	100
Oil flow	Q	[l/min]	14	16
Output speed	n	[min ⁻¹]	1	1
Max. achievable torque	M_d	[Nm]	7.800	7.800
Weight, motor		[kg]	6	14

Limiting load diagram for compressive loads

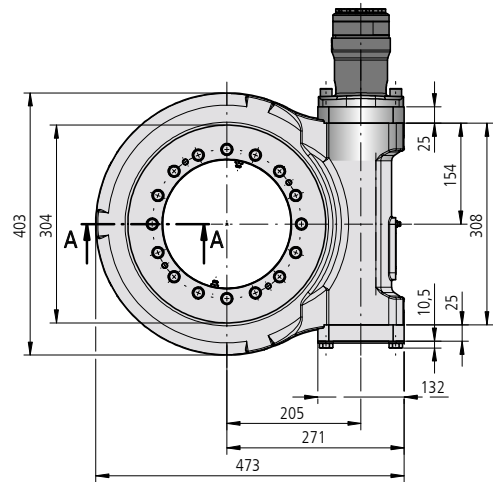


Please always observe the technical information in the catalog!

Size WD-E 0276 / ALU Housing / 1 Row / One Start / Dual Start / 1 Drive



The mounting structure must support the housing to at least $\varnothing 276$ and at most to $\varnothing 338$



Mounting holes

Y = 20 drill holes M16-30 deep, evenly distributed

Z = 16 drill holes $\varnothing 18$ -12 deep / M16, evenly distributed

Lubricating ports

2 conical grease nipples on internal diameter

3 conical grease nipples on housing exterior

Slew drive supplied pre-lubricated

Drawing number WD-E 0276/3-14704				
Drawing number WD-E 0276/3-14703				
Module	m	[mm]	4,5	4,5
Number of starts wormshaft		[-]	1	2
Gear ratio	i	[-]	80	40
Self-locking gears			Ja**	Nein**
Max. torque	M_{d max}	[Nm]	12.905	12.905
Nom. torque at $n = 1 \text{ min}^{-1}$	M_{d nom}	[Nm]	11.970	12.905
Max. holding torque (static)	M_{h max}	[Nm]	12.905	12.905*
Static load, radial	C_{o rad}	[kN]	419	419
Static load, axial	C_{o ax}	[kN]	1123	1123
Dynamic load, radial	C_{rad}	[kN]	157	157
Dynamic load, axial	C_{ax}	[kN]	183	183
Weight, slew drive		[kg]	44	44

* Optionally with brake

** See: Technical information, section *Self-locking* in Catalog

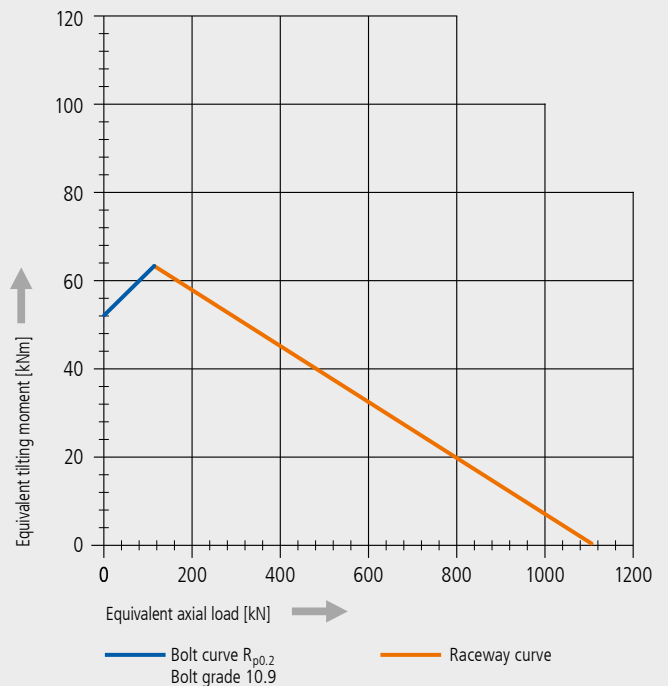
The selection of the hydraulic/electric motor is based on actual requirements and customer specifications.

Selection example:

Performance data with two hydraulic motors

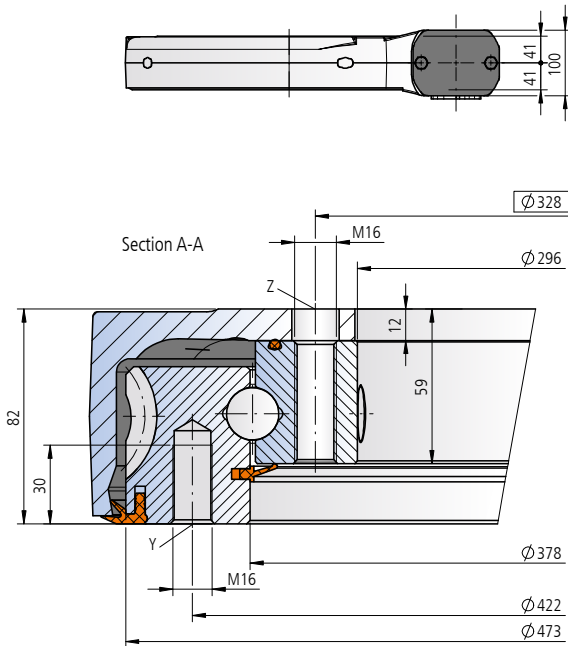
			MPY160	HW235
Pressure differential	Δp	[bar]	180	120
Oil flow	Q	[l/min]	20	21
Output speed	n	[min ⁻¹]	1	1
Max. achievable torque	M_d	[Nm]	12.905	12.905
Weight, motor		[kg]	6	14

Limiting load diagram for compressive loads

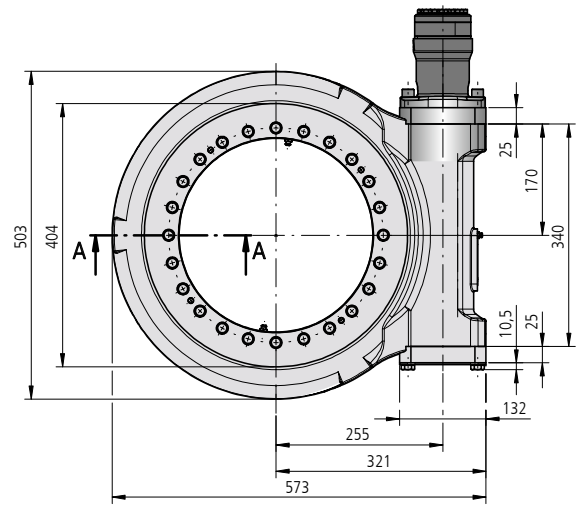


Please always observe the technical information in the catalog!

Size WD-E 0376 / ALU Housing / 1 Row / One Start / Dual Start / 1 Drive



The mounting structure must support the housing to at least Ø376 and at most to Ø437



Mounting holes

Y = 24 drill holes M16-30 deep, evenly distributed

Z = 24 drill holes Ø18-12 deep / M16, evenly distributed

Lubricating ports

2 conical grease nipples on internal diameter

3 conical grease nipples on housing exterior

Slew drive supplied pre-lubricated

Drawing number WD-E 0376/3-14706

Drawing number WD-E 0376/3-14705

Module	m	[mm]	4,5	4,5
Number of starts wormshaft		[-]	1	2
Gear ratio	i	[-]	102	51
Self-locking gears			Ja**	Nein**
Max. torque	$M_{d \max}$	[Nm]	15.606	15.606
Nom. torque at $n = 1 \text{ min}^{-1}$	$M_{d \text{ nom}}$	[Nm]	15.606	15.606
Max. holding torque (static)	$M_{h \max}$	[Nm]	15.606	15.606*
Static load, radial	$C_{o \text{ rad}}$	[kN]	461	461
Static load, axial	$C_{o \text{ ax}}$	[kN]	1.233	1.233
Dynamic load, radial	C_{rad}	[kN]	170	170
Dynamic load, axial	C_{ax}	[kN]	198	198
Weight, slew drive		[kg]	56	56

* Optionally with brake

** See: Technical information, section *Self-locking* in Catalog

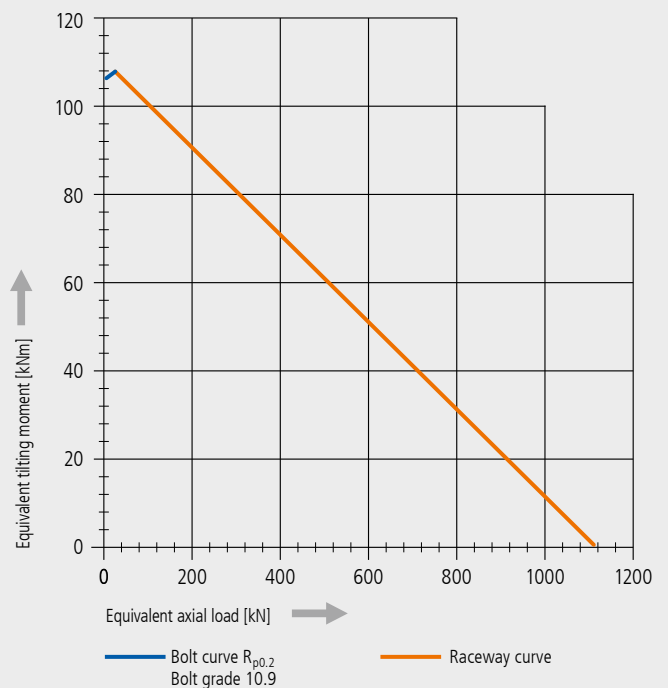
The selection of the hydraulic/electric motor is based on actual requirements and customer specifications.

Selection example:

Performance data with two hydraulic motors

			MPY160	HW235
Pressure differential	Δp	[bar]	170	115
Oil flow	Q	[l/min]	22	28
Output speed	n	[min ⁻¹]	1	1
Max. achievable torque	M_d	[Nm]	15.606	15.606
Weight, motor		[kg]	6	14

Limiting load diagram for compressive loads



Please always observe the technical information in the catalog!

We are happy to provide more than just slew drives:

From consulting to customized slewing solutions. IMO stands for practical engineering, high-tech production, and individual complete solutions from a single source.



- **Efficient:** Ready-to-install assemblies - reduce costs and speed up commissioning
- **Individual:** Tailor-made solutions through targeted needs assessment
- **Simple:** One point of contact - from consulting to warranty
- **Industry-proven:** Reliable even for complex applications
- **Made in Germany:** Availability and quality for maximum performance

Variety of Applications:

Examples of
IMO WD-E Alu Line



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