

EURONORM

DRIVE SYSTEMS



Slewing Drives Industrial

Euronorm



As an internationally operating supplychain partner, Euronorm is serving the European market with transmission components that present a more than convincing balance between price and quality.

Products

Euronorm distinguishes itself in the market by means of its extensive programme of electrical and mechanical transmission components. Thanks to an excellent interchangeability, high quality and competitive price level Euronorm transmissions are the first choice for both new constructions and the replacement market.

Service

Euronorm means direct contact with experienced technical specialists, good advice and no quibble agreements. The compact organisation makes it possible to give customers dedicated attention, which due to the personal nature of the firm relationships with a more than usual involvement during consultation, supply and support. Thanks to the Euronorm workshop, modification of transmissions to suit customer demands can be executed swiftly and reliably, be it a longer shaft for a motor or an alternative paint system or paint colour. Also a solid product support by means of good documentation, 3D drawings or the professional development and testing of prototypes is in capable and committed hands with Euronorm, and gives Euronorm its notable position in the transmission market.

Reliability of supply

In all respects Euronorm is a reliable partner, also when it comes to reliability of supply. Thanks to a generous and ambitious stock management and the in-house assembly of motors and reducers it is possible to realise short delivery times under the motto "to measure and to schedule".

Inhoud

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1. Slewing drives characteristics

Slewing drives present some characteristics that should be taken into account to choose the proper series for each application. The main points to consider are the ones following:

- The maximum output speed must be around 2,5 rpm.
- The standard temperature working range of a slewing drive is established between -20 and 70°C.
- The slewing drives can be used both in horizontal and in vertical position. In case installing it in vertical position, please consult the Euronorm Technical department.
- The load diagrams for each drive show its limit static load with a safety factor of 1. Euronorm recommends adding an application factor to the loads according to the following table. To assure the drive chosen is the right one, the loadcase of the application must be below the limit curve.

Application	Application criteria	Application factor
Casting	Extreme application	1.5
Machines for building / cranes	Extreme application	1.25
Vehicles and mounting on vehicles	Extreme application	1.25
Forklifts / Bulldozers	Light shocks	1.1
Treatment plants	Vibrations	1.25
Wind turbines	Danger of streaking	2.0
Robots	Rigidity	1.25
Antennas	Precision	1.5
Machines-tool	Precision	1.5
Measurement technique	Smooth operation	2.0

The load diagrams are also limited by the bolts. They are only valid if all the bolts of the slewing drive are used to fix it to the structure. The quality of the bolts is considered grade 10.9, the threaded length should be at least 1.5 times the bolt diameter and the recommended flange thickness 2 times the bolt diameter. If the bolt curve does not appear in the chart, this means that this curve is above the slewing ring chart.

In case you have questions regarding the application for breach of any point of the ones mentioned above or various load cases are applied, we recommend contacting Euronorm Technical Department. In case the slewing drive chosen does not adapt to your application we recommend consulting the slewing ring catalogue, as there exist a major variety of products and features.

2. Transport, handling and storage

Transport only in horizontal position avoiding possible impacts. The vertical series should be transported and stored in vertical position. The slewing drive should be manipulated carefully and wearing working gloves all the time. The threaded holes can be used to fix bolts to handle the slewing drive in a safety way with a hoisting device. Store always in horizontal position and in closed rooms.

3. Installation

Previous to the installation, a cleaning of the slewing drive and the structure where is going to be mounted must be done. It is not allowed the use of steam high pressure systems. It should be checked that the slewing drive is fully supported by the structure. The supporting surface must accomplish some requirements considering a maximum flatness deviation. The slewing drive must be mounted without any external loads. It is convenient to perform working tests in the structure before the loads are applied. The bolts used must be from the dimension, quantity and quality indicated.

4. Lubrication

For all applications a proper lubrication is necessary for a smooth operation of the slewing drive. There are three parts that need to be lubricated: the slewing ring raceway, the screw worm and the bearings. The quantity of grease required is around 60cc for the screw worm, 10cc for each tapered roller bearing and 10cc each 250mm of diameter for the slewing ring raceway. The procedure to regrease consists in injecting grease into all grease nipples one after the other while rotating the slewing drive. The slewing drives must be regreased after each cleaning and also before and after large periods of inactivity.

Re-lubrication is needed to assure a minimum quality on the grease inside the drive. In case no comparative results are available, the following table can be used as a reference.

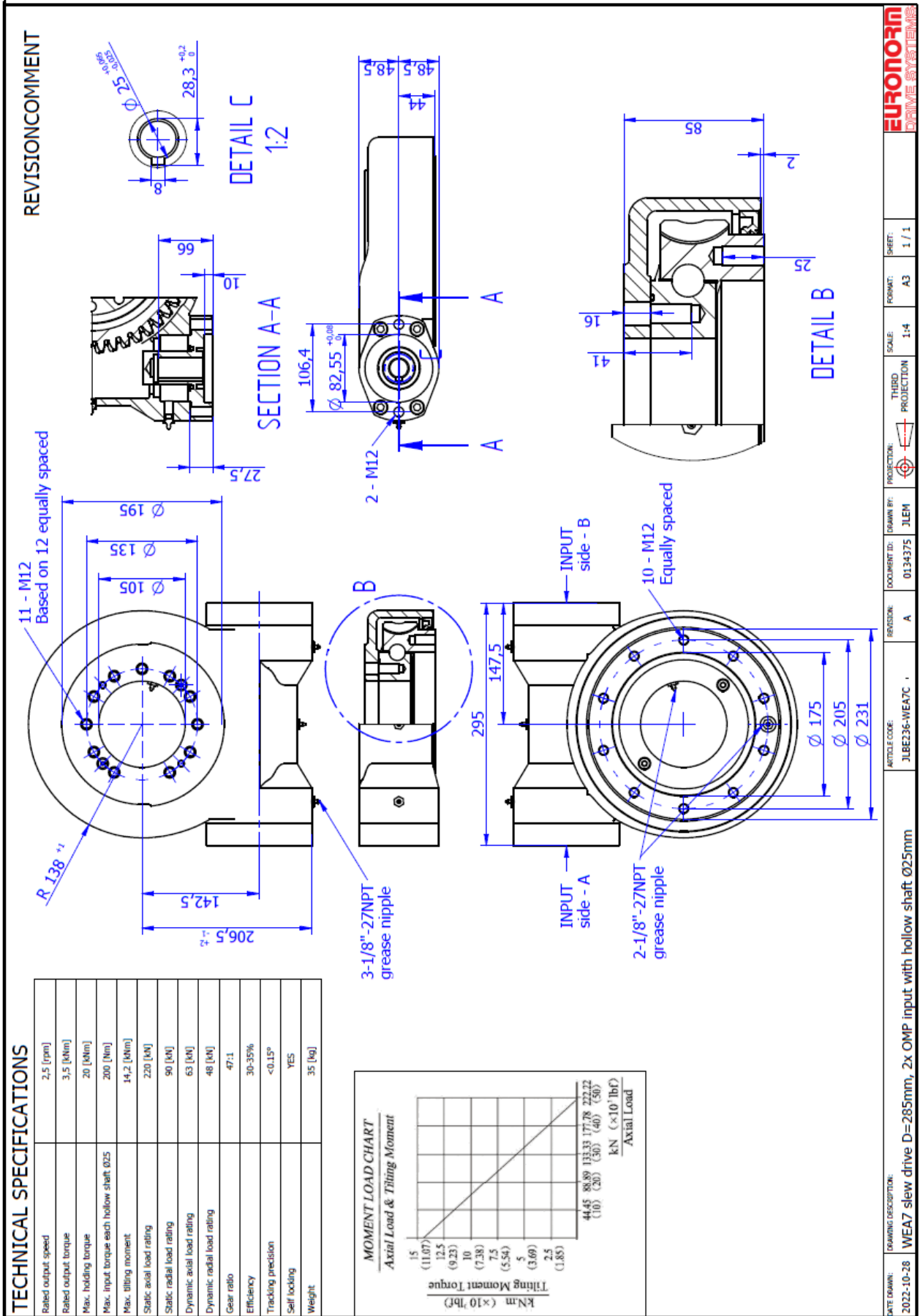
Working conditions	Slewing Ring and Screw Worm Re-lubrication intervals
Rotational speeds <0,5rpm Non extreme environmental conditions (solar trackers)	Every 400 hours of operation or once every 12 months
Rotational speeds >0,5rpm Non extreme environmental conditions (man lift, industrial applications)	Every 200 hours of operation or once every 6 months
Extreme climatic conditions (sea / desert / Arctic climate / very dirty surrounding) (tunnelling machines/steel mills)	Every 100 hours of operation or once every 3 months
Bearing re-lubrication intervals	
All working conditions	Every 400 hours or every 12months

To choose the proper type of grease for each application, please contact Euronorm technical department.

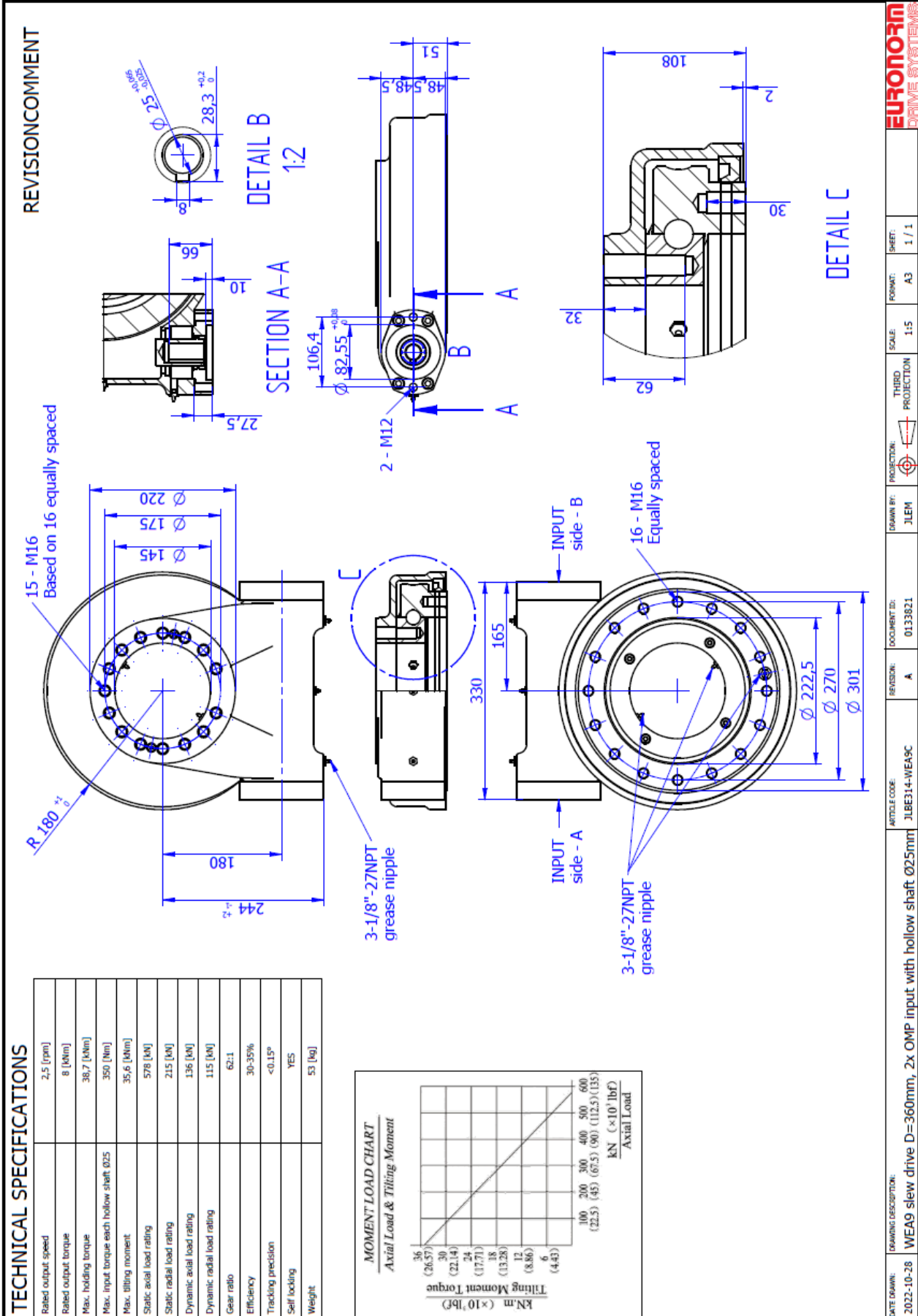
5. Maintenance / Security controls

Euronorm recommends retightening the bolts to the prescribed torque after no more than 100 working hours to compensate the possible settling. This should be done without external loads applied on the bolts union. This inspection should be repeated from then on every 3 months of working. The frequency of the inspection must be reduced under special working conditions.

Drawings
WEA-7C



WEA-9C



DATE DRAWN:	DRAWING DESCRIPTION:	ARTICLE CODE:	REVISION:	DOCUMENT ID:	PROJECTION:	SCALE:	FORMAT:	SHEET:
2022-10-28	WEA9 slew drive D=360mm, 2x OMP input with hollow shaft Ø25mm	JLBE314-WEA9C	A	0133821	THIRD ANGLE	1:5	A3	1 / 1

WEA-12C

TECHNICAL SPECIFICATIONS

Rated output speed	2.5 [rpm]
Rated output torque	9.5 [kNm]
Max. holding torque	43 [kNm]
Max. input torque each hollow shaft Ø25	340 [Nm]
Max. tilting moment	57 [kNm]
Static axial load rating	760 [kN]
Static radial load rating	280 [kN]
Dynamic axial load rating	190 [kN]
Dynamic radial load rating	146 [kN]
Gear ratio	79:1
Efficiency	30-35%
Tracking precision	<0.15°
Self locking	YES
Weight	67 [kg]

REVISIONCOMMENT

SECTION B-B
1:2

DETAIL C
1:2

DETAIL A
1:5

DETAIL B
1:5

DETAIL D
1:5

19 - M16 Based on 20 equally spaced

18 - M16 Equally spaced

3-1/8"-27NPT grease nipple

2-1/8"-27NPT grease nipple

2 - M12

INPUT side - A

INPUT side - B

Ø 300, Ø 259, Ø 229, R 222.5, 286.5, 272.5, 66, 10, 27.5, 51, 48.5, 106.4, 82.55, 10.08, 185, 370, 108, 30, 62, 32

MOMENT LOAD CHART

Axial Load & Tilting Moment

Tilting Moment Torque [kNm (x10 ³ lbf-ft)]	Axial Load [kN (x10 ³ lbf)]
60	60
50	50
40	40
30	30
20	20
10	10
0	0

Labels on chart: (44.28), (36.9), (29.52), (22.14), (14.76), (7.38) for Torque; (5.75), (9.5), (13.25), (17), (20.75) for Axial Load.

DATE DRAWN:	DRAWING DESCRIPTION:	ARTICLE CODE:	REVISION:	DOCUMENT ID:	DRAWN BY:	PROJECTION:	THIRD PROJECTION	SCALE:	FORMAT:	SHEET:
2022-10-28	WEA12C slew drive D=391mm, 2x OMP input with hollow shaft Ø25mm	JLBE391-WEA12C	A	0134388	JLEM	First Angle	THIRD PROJECTION	1:5	A3	1 / 1

WEA-14C

TECHNICAL SPECIFICATIONS

Rated output speed	2,5 [rpm]
Rated output torque	10,8 [kNm]
Max. holding torque	48 [kNm]
Max. input torque each hollow shaft Ø25	350 [Nm]
Max. tilting moment	71,2 [kNm]
Static axial load rating	960 [kN]
Static radial load rating	360 [kN]
Dynamic axial load rating	230 [kN]
Dynamic radial load rating	200 [kN]
Gear ratio	86:1
Efficiency	30-35%
Tracking precision	<0.13°
Self locking	YES
Weight	75 [kg]

REVISIONCOMMENT

SECTION B-B
Dimensions: 27,5, 10, 66

DETAIL C 1:2
Dimensions: 28,3 +0,2/0, 2,5

DETAIL A
Dimensions: 108, 26, 30, 56

DETAIL B
Dimensions: 190, 380

INPUT side - A
INPUT side - B

3-1/8\"-27NPT grease nipple (two locations)

18 - M16 Equally spaced

23 - M16 Based on 24 equally spaced

R 240 ±1

Ø 340, Ø 295, Ø 265, 237,5, 301,5 ±0,2, Ø 342, Ø 390, Ø 424

MOMENT LOAD CHART

Axial Load & Tilting Moment

Axial Load [kN] (x10 ³ lbf)	Tilting Moment Torque [kNm] (x10 ³ lbf)
51 (14)	14
60 (16)	16
44 (28)	28
35 (42)	42
26 (57)	57
17 (71)	71
8 (86)	86

DATE DRAWN: 2022-10-28	DRAWING DESCRIPTION: WEA14 slew drive D=475mm, 2x OMP input with hollow shaft Ø25mm	ARTICLE CODE: JLBE435-WEA14C	REVISION: A	DOCUMENT ID: 0134395	DESIGN BY: JLEM	PROJECTION: 	SCALE: 1:6	FORMAT: A3	SHEET: 1 / 1
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EURONorm
DRIVE SYSTEMS

WEA-17C

TECHNICAL SPECIFICATIONS

Rated output speed	2.5 [rpm]
Rated output torque	12.9 [kNm]
Max. holding torque	72.3 [kNm]
Max. input torque each hollow shaft Ø25	350 [Nm]
Max. tilting moment	142.4 [kNm]
Static axial load rating	1166 [kN]
Static radial load rating	435 [kN]
Dynamic axial load rating	280 [kN]
Dynamic radial load rating	231 [kN]
Gear ratio	104:1
Efficiency	30-35%
Tracking precision	<0.1°
Self locking	YES
Weight	96 [kg]

REVISIONCOMMENT

MOMENT LOAD CHART

Axial Load & Tilting Moment

Tilting Moment Torque [kNm] ($\times 10^3$ lbf)	Axial Load [kN] ($\times 10^3$ lbf)
110.7	150
92.25	125
73.8	100
55.35	75
36.9	50
18.45	25
226.7	907.1

DATE DRAWN: 2022-10-28

DRAWING DESCRIPTION: WEA17 slew drive D=523mm, 2x OMP input with hollow shaft Ø25mm

ARTICLE CODE: JLBES23-WEA17C

REVISION: A

DOCUMENT ID: 0134400

DRAWN BY: JLEM

PROJECTION: THIRD ANGLE

SCALE: 1:7

FORMAT: A3

SHEET: 1 / 1

WEA-19C

TECHNICAL SPECIFICATIONS

Rated output speed	2.5 [rpm]
Rated output torque	18.5 [kNm]
Max. holding torque	86.7 [kNm]
Max. input torque each hollow shaft Ø25	350 [Nm]
Max. tilting moment	196 [kNm]
Static axial load rating	1800 [kN]
Static radial load rating	675 [kN]
Dynamic axial load rating	290 [kN]
Dynamic radial load rating	250 [kN]
Gear ratio	93:1
Efficiency	30-35%
Tracking precision	<0.1°
Self locking	YES
Weight	130 [kg]

REVISION COMMENT

SECTION A-A
1:5

DETAIL B
1:2

DETAIL C

31 - M16 based on 32 equally spaced

R 312,5 ±0.2

377,5 ±0.2

312,5

3-1/8"-27NPT grease nipple

INPUT side - B

32 - M16 Equally spaced

INPUT side - A

435

217.5

Ø 480

Ø 520

Ø 570

3-1/8"-27NPT grease nipple

MOMENT LOAD CHART
Axial Load & Tilting Moment

Axial Load [kN]	Tilting Moment Torque [kNm]
400 (90.92)	147.46
800 (179.44)	294.92
1200 (269.16)	442.38
1600 (358.88)	589.84
2000 (448.60)	737.30

DATE DRAWN:	DRAWING DESCRIPTION:	ARTICLE CODE:	REVISION:	DOCUMENT ID:	DRAWN BY:	PROJECTION:	SCALE:	FORMAT:	SHEET:
2022-10-28	WEA19C slew drive D=600mm, 2x OMP input with hollow shaft Ø25mm	JLBE600-WEA19C	A	0134416	JLEM	THIRD PROJECTION	1:8	A3	1 / 1

WEA-21C

TECHNICAL SPECIFICATIONS

Rated output speed	2.5 [rpm]
Rated output torque	28.7 [kNm]
Max. holding torque	105.8 [kNm]
Max. input torque each hollow shaft Ø25	350 [Nm]
Max. tilting moment	203 [kNm]
Static axial load rating	1598 [kN]
Static radial load rating	640 [kN]
Dynamic axial load rating	385 [kN]
Dynamic radial load rating	335 [kN]
Gear ratio	90:1
Efficiency	30-35%
Tracking precision	<0.1°
Self locking	YES
Weight	172 [kg]

REVISIONCOMMENT

SECTION A-A 1:5

DETAIL B 1:2

DETAIL C

35 - M20 Based on 36 equally spaced

R 346,5⁺²₀

350

415⁺²₋₁

3-1/8"-27NPT grease nipple

490

245

INPUT side - A

INPUT side - B

35 - M20 Equally spaced

4-1/8"-27NPT grease nipple

Ø 540

Ø 584,2

Ø 625

130

3.5

70

30

40

MOMENT LOAD CHART

Axial Load & Tilting Moment

Axial Load (kN x 10 ³ lbf)	Tilting Moment (kNm x 10 ³ lbf)
177	240
200	200
147.5	160
118	120
120	120
88.5	80
59	40
29.5	20

DATE DRAWN: 2022-10-28

DRAWING DESCRIPTION: WEA21 slew drive D=629mm, 2x OMP input with hollow shaft Ø25mm

ARTICLE CODE: JLB629-WEA21C

REVISION: A

DOCUMENT ID: 0134415

DESIGN BY: JLEM

PROJECTION: THIRD ANGLE

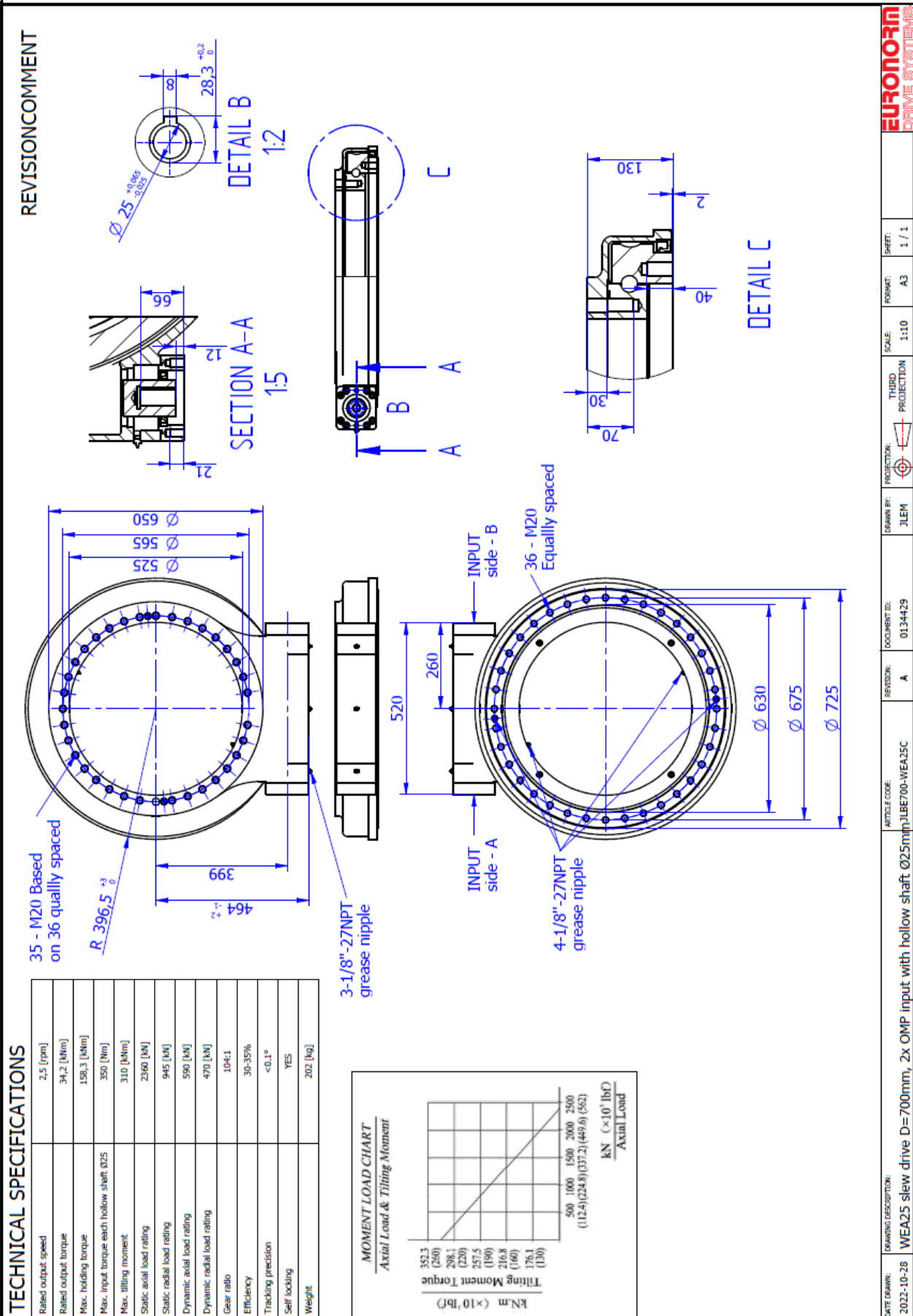
SCALE: 1:10

FORMAT: A3

SHEET: 1 / 1

EURONorm
DRIVE SYSTEMS

WEA-25



DATE DRAWN:	DRAWING DESCRIPTION:	ARTICLE CODE:	REVISION:	DOCUMENT ID:	DRAWN BY:	PROJECTION:	THIRD PROJECTION:	SCALE:	FORMAT:	SHEET:
2022-10-28	WEA25 slew drive D=700mm, 2x OMP input with hollow shaft: Ø25mm/1.1875" - WEA25C		A	0134429	JLEM	THIRD PROJECTION	THIRD PROJECTION	1:10	A3	1 / 1