



CERTIFICATE NUMBER
EFFECTIVE DATE
EXPIRY DATE
ABS TECHNICAL OFFICE

25-0346164-PDA
11-Nov-2025
10-Nov-2030
Genoa Engineering Department

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

DINAMIC OIL S.P.A.

located at

VIA TOGLIATTI NO. 15, , BOMPORTO, MODENA, Italy, 41030

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: Gearbox
Model: RA 813 T3S 60,56 ME132 and RE 813 TS 81 ST BG with Pinion M10 Z14 X0,5 BU94
RA 813 T3S 60,56 ME132 and RE 813 TS 81 ST BG with Pinion M12 Z14 X0,48 BU105
RE 1022 DBS S 51,43 F601 ...
Endorsements:
Tier: 5 - Unit Certification Required

This Product Design Assessment (PDA) Certificate remains valid until 10/Nov/2030 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

Simone Cavecchia, Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

DINAMIC OIL S.P.A.

VIA TOGLIATTI NO. 15

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Italy 41030

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Tier: 5 - Unit Certification Required

Product: Gearbox

Model: RA 813 T3S 60,56 ME132 and RE 813 TS 81 ST BG with Pinion M10 Z14 X0,5 BU94
RA 813 T3S 60,56 ME132 and RE 813 TS 81 ST BG with Pinion M12 Z14 X0,48 BU105
RE 1022 DBS S 51,43 F601 with Pinion M12 Z12 X0.5
RE 1022 DBS S 43.68 F602 with Pinions M12 Z12 X0.5 and M14 Z12 X0.5
RA 1023 T8S 60,56L ME132 and RE 1023 T8S 81 ST BG with Pinion M12 Z14 X0.48 BU105
RA 1023 DBS S 61,70 ME160 and RE 1023 DBS S 81 ST BG with Pinion M16 Z14 X0,5 BU125
RA 1023 DBS S 52.9 with Pinion M14 Z12 X0.5 and RA 1023 DBS S 52.9 with pinion M12 Z12 X0.48
RA 1523 DBS S 62,15 ME180 and RE 1523 DBS S 80,57 ST BG with Pinion M16 Z14 X0,48 BU140

Endorsements:

Intended Service:

Thruster Steering - Multiple arrangement only.

Description:

In line and right angle, two and three stages, planetary reduction gears with splined male overhung output pinion shafts.

Model names including F601 or F602 designate gearboxes with static friction brake on input shaft.

Rating:

Nominal power from 7.4 to 29.1 kW.

For additional details, see attachment.

Service Restriction:

- 1) As per 4-3-1/1.1 of ABS Marine Vessel Rules, Unit Certification is required for this product, regardless of power rating, when used on steering mechanism for main propulsion azimuthal thrusters or for auxiliary thrusters of vessel covered by APS, PAS or DPS additional Class Notation.
- 2) As per 4-3-1/3-1-3 of ABS Marine Vessel Rules, Gears for steering of azimuthing thrusters are to have their material traceable to manufacturer certificates except for output pinion and relevant shaft for which materials are to be tested in the presence of the Surveyor.
- 3) Factory Acceptance Tests required for Unit Certification are as per 4-3-1/9.7.1(ii) of the Marine Vessels Rules, as applicable.
- 4) If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments:

- 1) Present approval is valid only in conjunction with service profile as per the attachment.
- 2) Output pinion teeth mesh are not covered by present certificate and are to be approved on a case-by-case basis.
- 3) Minimum operating temperature is -9.9°C. Where operation at lower temperature is requested, considerations shall be given to provision of adequate heating systems for entire reduction gear or for adoption of materials with adequate resilience. Relevant design data are to be submitted for review on a case-by-case basis.
- 4) Hydraulic motors driving pinions for thruster steering mechanisms are to be certified by the Surveyor at Manufacturers' plants in accordance with 4-3-5/5.11 and 4-6-1/7.3 of ABS Marine Vessels Rules.
- 5) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes/Drawing/Documentation:

Reference technical drawings and documents as per attachment.

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Tier: 5 - Unit Certification Required

Terms of Validity:

This Product Design Assessment (PDA) Certificate remains valid until 10/Nov/2030 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

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STANDARDS

ABS Rules:

2025 ABS Rules for Condition of Classification - Part 1A [Ships]: 1A-1-4/7.7, 1A-1-A3, 1A-1-A4, which covers the following:

- 2025 ABS Rules for Building and Classing Marine Vessels: 4-3-1 and 4-3-5;
- 2025 ABS Rules for Building and Classing Steel Vessels for Service on Rivers and Intracoastal Waterways: 4-2-1, and 4-2-3;

2025 ABS Rules for Conditions of Classification – Part 1B [Offshore Units]: 1B-1-4/9.7, 1B-1-A2, 1B-1-A3, which covers the following:

- 2025 ABS Rules for Building and Classing Offshore Units: 4-1-2, 6-1-4

2025 ABS Rules for Conditions of Classification - Part 1C [Light and High-Speed Craft]: 1C-1-4/11.9, 1C-1-A2, 1C-1-A3, which covers the following:

- 2025 ABS Rules for Building and Classing High-Speed Craft: 4-3-1, and 4-3-3.

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA

Additional Product Details

PDA Certificate No. 25-0346164-PDA

Issued on 11-Nov-2025

Expiring on 10-Nov-2030

PLANETARY REDUCTION GEAR RA 813 T3S 60,56 ME132 WITH PINION M10 Z14 X0.5 BU94

GEARBOX CODE: ABT91L3FSH00601

Ratings:

Phase	Time percentage	Output torque T2	Output speed n2	Gear ratio: 1:60.56 Expected service life: 160000 h @ 6 rpm Application factor: Ka = 1 Maximum static output torque: 3728 Nm
	%	[Nm]	[rpm]	
1	99.8	1143	23.57	
2	0.2	2982	23.57	

Drawing List:

Drawing No.	Revision No.	Drawing Title
DI14480	5	RA 813 T3S ME132 GENERAL ASSEMBLY DRAWING
DI18398	2	RA 813 T3S ME132 GENERAL ASSEMBLY DRAWING WITH PINION
-	0	MAX STATIC TORQUE RE 810 3.56
LR-3833	1	RA 813 T3S 60.56 ME132 PART LIST
ST7039	2	RA 813 T3S ME132 SECTIONAL VIEW
022210945	2	PLANETARY CARRIER RE810 NEW DRAWING R=3.56 CANTILEVER
022210944	2	PLANETARY CARRIER RE810 NEW DRAWING (TURNED)
'025810147	0	PLANETARY CARRIER PIN RE 810 CANTILEVERED PIN
027410110	1	THRUST BEARING 33.5X53.5X4 RE 810 SPEC.ZOOMLION
4000183200	0	RE810 BOTTOM
2030024000	6	RE310 SUN GEAR
2030021300	22	RE300 RING GEAR
025710224ABT	3	RE810 PINION M10 Z14 X0.5 BU93
025710224	8	RE810 PINION M10 Z14 X0.5 BU94
022610228ABT	0	RE810 SPLINED SHAFT B70X64
022610228	2	RE810 SPLINED SHAFT B70X64
20300228	5	RE300 RING
2030021500	12	RE310 PLANETARY GEAR
02971249	1	RE810 BODY
02771001	2	KEY 22X14X34
02741009	4	RE810 RING
02741007	6	RE310 RING
02731552	2	RE810/RE1020 STEEL INTERMEDIATE FLANGE
02731037	4	RE310 FLANGE
02731035	5	BEVEL GEAR FLANGE
02631011	0	BEVEL GEAR SPLINED COUPLING
02621002	7	RE810 PLANETARY GEAR
02611030	4	RE810 SUN GEAR
02611027	2	BEVEL GEAR PINION
02581025	3	RE810 PLANETARY CARRIER PIN
02581006	14	RE310 PLANETARY CARRIER PIN
02551021	2	RE810 BOTTOM

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02551015	4	RE310 BOTTOM
02501039	6	RE110 INPUT SUPPORT
02261026	4	BEVEL GEAR SHAFT
02251010	6	RE810 CAP
02241166	2	RE110 INPUT COUPLING
02231011	10	RE810 RING GEAR
02231010	3	BEVEL GEAR WHEEL
02221057	11	RE810 PLANETARY CARRIER
02221056	8	RE310 PLANETARY CARRIER
02211006	0	BEVEL GEAR CAP
02201356	4	CC120 CARTER
02201029	12	RE810 BODY

Additional Product Details

PDA Certificate No. 25-0346164-PDA

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PLANETARY REDUCTION GEAR RE 813 TS 81 ST BG WITH PINION M10 Z14 X0.5 BU94

GEARBOX CODE: ABT91L3FS300810

Ratings:

Phase	Time percentage	Output torque T2	Output speed n2
	%	[Nm]	[rpm]
1	99.8	1143	23.57
2	0.2	2982	23.57

Gear ratio: 1:81.0
Expected service life: 160000 h @ 6 rpm
Application factor: Ka = 1
Maximum static output torque: 3728 Nm

Drawing List:

Drawing No.	Revision No.	Drawing Title
DI13835	2	RE 813 TS ST BG GENERAL ASSEMBLY DRAWING
-	0	MAX STATIC TORQUE RE 810 3.56
022210945	2	PLANETARY CARRIER RE810 NEW DRAWING R=3.56 CANTILEVER
022210944	2	PLANETARY CARRIER RE810 NEW DRAWING (TURNED)
'025810147	0	PLANETARY CARRIER PIN RE 810 CANTILEVERED PIN
027410110	1	THRUST BEARING 33.5X53.5X4 RE 810 SPEC.ZOOMLION
ST5869	1	RE 813 TS ST BG SECTIONAL VIEW
LR-3136	2	RE 813 TS 81 ST BG PART LIST
4000183200	0	RE810 BOTTOM
4000067200	0	SPLINED COUPLING 12/24 DP Z14
2030024100	6	RE310 SUN GEAR
2030022800	5	RE300 RING
027310487	1	RE310/510 STEEL INTERMEDIATE FLANGE
2030021600	12	RE310 PLANETARY GEAR
2030021300	22	RE300 RING GEAR
2030001600	6	RE110 PLANETARY GEAR
402004000	4	RE100 RING
02741009	4	RE810 RING
02741007	6	RE310/510 RING
02731552	2	RE810/1020 STEEL INTERMEDIATE FLANGE
02621002	7	RE810 PLANETARY GEAR
02611030	4	RE810 SUN GEAR
02611022	7	RE100 SUN GEAR
02581034	4	RE110 PLANETARY CARRIER PIN
02581025	3	RE810 PLANETARY CARRIER PIN
02581006	14	RE310 PLANETARY CARRIER PIN
02551021	2	RE810 BOTTOM
02551015	4	RE310/510 BOTTOM
02551010	4	RE110 BOTTOM
02511108	5	MOTOR COUPLING FLANGE
02501003	15	RE110 INPUT SUPPORT
02251010	6	RE810 CAP

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02241005	12	INPUT COUPLING SHAFT
02231011	12	RE810 RING GEAR
02231006	12	RE110 RING GEAR
02221057	11	RE810 PLANETARY CARRIER
02221056	13	RE310 PLANETARY CARRIER
02221019	2	RE100 PLANETARY CARRIER
02201029	12	RE810 BODY
025710224ABT	3	RE810 PINION M10 Z14 X0.5 BU93
025710224	8	RE810 PINION M10 Z14 X0.5 BU94
022610228BVT	0	RE810 SPLINED SHAFT B70X64
022610228	2	RE810 SPLINED SHAFT B70X64

Additional Product Details

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PLANETARY REDUCTION GEAR RA 813 T3S 60,56 ME132 WITH PINION M12 Z14 X0.48 BU105

GEARBOX CODE: ABT91L3FSH00601

Ratings:

Phase	Time percentage	Output torque T2	Output speed n2
	%	[Nm]	[rpm]
1	99.8	1866	23.57
2	0.2	4303	23.57

Gear ratio: 1:60.56
Expected service life: 160000 h @ 6 rpm
Application factor: Ka = 1
Maximum static output torque: 5378 Nm

Drawing List:

Drawing No.	Revision No.	Drawing Title
DI14480	5	RA 813 T3S ME132 GENERAL ASSEMBLY DRAWING
DI20851	1	RA 813 T3S ME132 GENERAL ASSEMBLY DRAWING WITH PINION
-	0	MAX STATIC TORQUE RE 810 3.56
ST7039	2	RA 813 T3S ME132 SECTIONAL VIEW
LR-3728	2	Revise
022210945	2	PLANETARY CARRIER RE810 NEW DRAWING R=3.56 CANTILEVER
022210944	2	PLANETARY CARRIER RE810 NEW DRAWING (TURNED)
025810147	0	PLANETARY CARRIER PIN RE 810 CANTILEVERED PIN
027410110	1	THRUST BEARING 33.5X53.5X4 RE 810 SPEC.ZOOMLION
4000183200	0	RE810 BOTTOM
2030024000	6	RE310 SUN GEAR
2030021300	22	RE300 RING GEAR
025710210ABT	1	RE810 PINION M12 Z14 X0.48 BU105
025710210	8	RE810 PINION M12 Z14 X0.48 BU105
022610228ABT	0	RE810 SPLINED SHAFT B70X64
022610228	2	RE810 SPLINED SHAFT B70X64
2030022800	5	RE300 RING
2030021500	12	RE310 PLANETARY GEAR
02971249	1	RE810 BODY
02771001	2	KEY 22X14X34
02741009	4	RE810 RING
02741007	6	RE310 RING
02731552	2	RE810/RE1020 STEEL INTERMEDIATE FLANGE
02731037	4	RE310 FLANGE
02731035	5	BEVEL GEAR FLANGE
02631011	0	BEVEL GEAR SPLINED COUPLING
02621002	7	RE810 PLANETARY GEAR
02611030	4	RE810 SUN GEAR
02611027	2	BEVEL GEAR PINION
02581025	3	RE810 PLANETARY CARRIER PIN
02581006	14	RE310 PLANETARY CARRIER PIN

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02551021	2	RE810 BOTTOM
02551015	4	RE310 BOTTOM
02501039	7	RE110 INPUT SUPPORT
02261026	6	BEVEL GEAR SHAFT
02251010	6	RE810 CAP
02241166	2	RE110 INPUT SHAFT
02231011	12	RE810 RING GEAR
02231010	4	BEVEL GEAR WHEEL
02221057	11	RE810 PLANETARY CARRIER
02221056	13	RE310 PLANETARY CARRIER
02211006	0	BEVEL GEAR CAP
02201356	5	CC120 CARTER
02201029	12	RE810 BODY
ABT91L3FSH00601	0	ABS TYPE TEST REPORT DATED 8-MAY-2015

Additional Product Details

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PLANETARY REDUCTION GEAR RE 813 TS 81 ST BG WITH PINION M12 Z14 X0.48 BU105

GEARBOX CODE: ABT91L3FS300810

Ratings:

Phase	Time percentage	Output torque T2	Output speed n2
	%	[Nm]	[rpm]
1	99.8	1866	23.57
2	0.2	4303	23.57

Gear ratio: 1:81.0
Expected service life: 160000 h @ 6 rpm
Application factor: Ka = 1
Maximum static output torque: 5378 Nm

Drawing List:

Drawing No.	Revision No.	Drawing Title
DI12992	2	RE 813 TS ST BG GENERAL ASSEMBLY DRAWING
-	0	MAX STATIC TORQUE RE 810 3.6
ST5380	0	RE 813 TS ST BG SECTIONAL VIEW
LR-3127	1	RE 813 TS 81 ST BG PART LIST
022210945	2	PLANETARY CARRIER RE810 NEW DRAWING R=3.56 CANTILEVER
022210944	2	PLANETARY CARRIER RE810 NEW DRAWING (TURNED)
'025810147	0	PLANETARY CARRIER PIN RE 810 CANTILEVERED PIN
027410110	1	THRUST BEARING 33.5X53.5X4 RE 810 SPEC.ZOOMLION
4000183200	0	RE810 BOTTOM
4000067200	0	SPLINED COUPLING 12/24 DP Z14
2030024100	6	RE310 SUN GEAR
2030022800	5	RE300 RING
027310487	1	RE310/510 STEEL INTERMEDIATE FLANGE
2030021600	12	RE310 PLANETARY GEAR
2030021300	22	RE300 RING GEAR
2030001600	6	RE110 PLANETARY GEAR
402004000	4	RE100 RING
02741009	4	RE810 RING
02741007	6	RE310/510 RING
02731552	2	RE810/1020 STEEL INTERMEDIATE FLANGE
02621002	7	RE810 PLANETARY GEAR
02611030	4	RE810 SUN GEAR
02611022	7	RE110 SUN GEAR
02581034	4	RE110 PLANETARY CARRIER PIN
02581025	3	RE810 PLANETARY CARRIER PIN
02581006	14	RE310 PLANETARY CARRIER PIN
02551021	2	RE810 BOTTOM
02551015	4	RE310/510 BOTTOM
02551010	4	RE110 BOTTOM
02511108	5	MOTOR COUPLING FLANGE
02501003	15	RE110 INPUT SUPPORT
02251010	6	RE810 CAP

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02241005	12	INPUT COUPLING SHAFT
02231011	12	RE810 RING GEAR
02231006	12	RE110 RING GEAR
02221057	11	RE810 PLANETARY CARRIER
02221056	13	RE310 PLANETARY CARRIER
02221019	2	RE100 PLANETARY CARRIER
02201029	12	RE810 BODY
025710210ABT	1	RE810 PINION M12 Z14 X0.48 BU105
025710210	8	RE810 PINION M12 Z14 X0.48 BU105
022610228BVT	0	RE810 SPLINED SHAFT B70X64
022610228	2	RE810 SPLINED SHAFT B70X64

Additional Product Details

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PLANETARY REDUCTION GEAR RE 1022 DBS S 51.43 F601 WITH PINION M12 Z12 X0.5

GEARBOX CODE: ABT91L3GS000001

Ratings:

Phase	Time percentage	Output torque T2	Output speed n2
	%	[Nm]	[rpm]
1	10	3368	27.5
2	20	2764	27.5
3	30	2149	27.5
4	30	1519	27.5
5	9.7	861	27.5
6	0.3	5137	27.5

Gear ratio: 1:51.43
Expected Output Pinion service life:
57.6 million cycles, equivalent to
160000 h @ 6 rpm for Intermittent service
35000h @ 27.5 rpm for continuous service
Application factor: Ka = 1
Maximum static output torque: 6422 Nm

Drawing List:

Drawing No.	Revision No.	Drawing Title
DI18508	0	RE 1022 DBS S 51.43 GENERAL ASSEMBLY DRAWING
ST8896	1	RE 1022 DBS S 51.43 SECTIONAL VIEW
LR-4460	2	RE 1022 DBS S 51.43 PART LIST
022210618	2	PLANETARY CARRIER R=7.5 CANTILEVERED PIN
02221056	13	PLANETARY CARRIER RE310/510/610 (TURNING+BROACHING)
025810129	6	PLANETARY CARRIER PIN RE 510/610 (CANTILEVERED PIN)
027410148	1	SHIM ADJUSTMENT FIFTH WHEEL 46.7x31.9x1 RE 510
027410180	1	THRUST BEARING 50X31.1X3.2 RE 510-610
026210178	1	PLANETARY R=7.5 (CANTILEVERED PIN RE510)
-	0	MAX STATIC TORQUE RE 510 7.5
4000184000	0	RE 1020-1520 END PLATE EP150
4000067200	0	SPLINED COUPLING 12/24DP Z14
2030032200	8	RE510 SUN GEAR
2030031100	10	RE510 PLANETARY GEAR
2030030600	24	RE500 RING GEAR
025810102	3	RE1020 PLANETARY CARRIER PIN
025710296ABT	1	RE1020 PINION M12 Z12 X0.5 BU100
025710296	6	RE1020 PINION M12 Z12 X0.5 BU100
022610227ABT	0	RE1020 SPLINED SHAFT B80X74
022610227	3	RE1020 SPLINED SHAFT B80X74
022510143	2	RE1020 HOLDER SEAL CAP
022210126	9	RE1020 PLANETARY CARRIER
022010169	5	RE1020 GEARBOX BODY DBS NO ECC.
02731552	2	RE810/1020 STEEL INTERMEDIATE FLANGE
02621043	4	RE1020 PLANETARY GEAR
02611125	4	RE1020 SUN GEAR
02581014	6	RE510 PLANETARY CARRIER PIN

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02511108	5	MOTOR COUPLING FLANGE SAE "C"
02501000	9	BRAKE INPUT SUPPORT
02431014	2	RE510 BRAKE BODY F6
02271000	4	F6 BRAKE PISTON
02241000	5	BRAKE INPUT SHAFT F6
02231028	10	RE1020 RING GEAR
02221161	4	RE510 PLANETARY CARRIER
02221156	7	RE510 PLANETARY CARRIER (TURNED)

Additional Product Details

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PLANETARY REDUCTION GEAR RE 1022 DBS S 43.7 F602 WITH PINION M14 Z12 X0.5

GEARBOX CODE: ABT91L3GS000002

Ratings:

Phase	Time percentage	Output torque T2	Output speed n2
	%	[Nm]	[rpm]
1	10	4749	27.5
2	20	3908	27.5
3	30	3050	27.5
4	30	2167	27.5
5	9.7	1239	27.5
6	0.2	7932	27.5
7	0.1	9915	0.01

Gear ratio: 1:43.7

Expected Output Pinion service life:

57.6 million cycles - equivalent to:

160000 h @ 6 rpm for Intermittent service

35000h @ 27.5 rpm for continuous service

Application factor: Ka = 1

Maximum static output torque: 9915 Nm

Nominal Input Braking Torque: 215 Nm

Drawing List:

Drawing No.	Revision No.	Drawing Title
DI18843	5	RE 1022 DBS S 43.68 GENERAL ASSEMBLY DRAWING
ST9123	4	RE 1022 DBS S 43.68 SECTIONAL VIEW
LR-4941	2	RE 1022 DBS S 43.68 PART LIST
022210618	2	PLANETARY CARRIER R=7.5 CANTILEVERED PIN
02221056	13	PLANETARY CARRIER RE310/510/610 (TURNING+BROACHING)
025810129	6	PLANETARY CARRIER PIN RE 510/610 (CANTILEVERED PIN)
027410148	1	SHIM ADJUSTMENT FIFTH WHEEL 46.7x31.9x1 RE 510
027410180	1	THRUST BEARING 50X31.1X3.2 RE 510-610
026210178	1	PLANETARY R=7.5 (CANTILEVERED PIN RE510)
-	0	MAX STATIC TORQUE RE 510 7.5
4000184000	0	RE 1020 END PLATE EP150
4000067200	0	SPLINED COUPLING 12/24DP Z14
2030032200	8	RE510 SUN GEAR
2030031100	10	RE510 PLANETARY GEAR
2030030600	24	RE500 RING GEAR
025810102	3	RE1020 PLANETARY CARRIER PIN
025710299ABT	1	RE1020 PINION M14 Z12 X0.5 BU100
025710299	3	RE1020 PINION M14 Z12 X0.5 BU100
022610227ABT	0	RE1020 SPLINED SHAFT B80X74
022610227	3	RE1020 SPLINED SHAFT B80X74
022510143	2	RE1020 HOLDER SEAL CAP
022210126	9	RE1020 PLANETARY CARRIER
022010226	6	RE1020 GEARBOX BODY DBS NO ECC.
02731552	2	RE810/1020 STEEL INTERMEDIATE FLANGE
02621042	4	RE1020 PLANETARY GEAR
02611124	5	RE1020 SUN GEAR

Additional Product Details

PDA Certificate No. 25-0346164-PDA

Issued on 11-Nov-2025

Expiring on 10-Nov-2030

02581014	6	RE510 PLANETARY CARRIER PIN
02511108	5	MOTOR COUPLING FLANGE SAE "C"
02501000	9	BRAKE INPUT SUPPORT
02431014	2	RE510 BRAKE BODY F6
02271000	4	F6 BRAKE PISTON
02241000	5	BRAKE INPUT SHAFT F6
02941001	6	STEEL BLADE THICKNESS 1.3MM
02941000	5	BRONZE DISK THICKNESS 1MM
02731004	0	BRAKE BLADES SPACER
02701000	3	BRAKE SPRING F5-F6
2231028	8	RE1020 RING GEAR
2221161	3	RE510 PLANETARY CARRIER
2221156	5	RE510 PLANETARY CARRIER (TURNED)
25510100	1	END PLATE RE1020-1520
2551015	3	END PLATE RE 300-500

Additional Product Details

PDA Certificate No. 25-0346164-PDA

Issued on 11-Nov-2025

Expiring on 10-Nov-2030

PLANETARY REDUCTION GEAR RE 1022 DBS S 43.7 F602 WITH PINION M14 Z12 X0.5

GEARBOX CODE: ABT91L3GS000005

Ratings:

Phase	Time percentage	Output torque T2	Output speed n2
	%	[Nm]	[rpm]
1	10	3431	27.5
2	20	2968	27.5
3	30	2464	27.5
4	30	1900	27.5
5	9.7	1228	27.5
6	0.2	5345	27.5
7	0.1	6681	0.01

Gear ratio: 1:43.7

Expected Output Pinion service life:

57.6 million cycles - equivalent to:

160000 h @ 6 rpm for Intermittent service

35000h @ 27.5 rpm for continuous service

Application factor: Ka = 1

Maximum static output torque: 9400 Nm

Nominal Input Braking Torque: 215 Nm

Drawing List:

Drawing No.	Revision No.	Drawing Title
DI24501	1	RE 1022 DBS S 43.68 GENERAL ASSEMBLY DWG
ST9123	4	RE 1022 DBS S 43.68 SECTIONAL VIEW
LR-5653	1	RE 1022 DBS S 43.68 PART LIST
022210618	2	PLANETARY CARRIER R=7.5 CANTILEVERED PIN
02221056	13	PLANETARY CARRIER RE310/510/610 (TURNING+BROACHING)
025810129	6	PLANETARY CARRIER PIN RE 510/610 (CANTILEVERED PIN)
027410148	1	SHIM ADJUSTMENT FIFTH WHEEL 46.7x31.9x1 RE 510
027410180	1	THRUST BEARING 50X31.1X3.2 RE 510-610
026210178	1	PLANETARY R=7.5 (CANTILEVERED PIN RE510)
-	0	MAX STATIC TORQUE RE 510 7.5
025510100	1	RE 1020-1520 END PLATE
02621042	4	RE1020 PLANETARY GEAR
025810102	3	RE1020 PLANETARY CARRIER PIN
022210126	9	RE1020 PLANETARY CARRIER
025710296ABT	1	RE1020-1520 PINION M12 Z12 x0,5 BU100
025710296	6	RE1020-1520 PINION M12 Z12 x0,5 BU100
022610227	3	RE1020 SPLINED SHAFT B80x74
022510143	2	RE1020 HOLDER SEAL CAP
2030032200	8	RE510 SUN GEAR
022010226	6	RE1020 GEARBOX BODY DBS NO ECC.
02731552	2	RE810/1020 STEEL INTERMEDIATE FLANGE
02611124	5	RE1020 SUN GEAR
02581014	6	RE510 PLANETARY CARRIER PIN
02231028	10	RE1020 RING GEAR
02501000	9	BRAKE INPUT SUPPORT
02431014	2	RE510 BRAKE BODY F6

Additional Product Details

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02271000	4	F6 BRAKE PISTON
02241000	5	BRAKE INPUT SHAFT F6
02941001	6	STEEL BLADE THICKNESS 1.3mm
02941000	5	BRONZE DISK THICKNESS 1mm
02731004	0	BRAKE BLADES SPACER
02701000	3	BRAKE SPRING F5-F6
02221156	7	RE510 PLANETARY CARRIER (TURNED)
02221161	4	RE510 PLANETARY CARRIER
2030030600	24	RE500 RING GEAR
2030031100	10	RE510 PLANETARY GEAR
02551015	4	RE310 END PLATE
4000067200	0	SPLINED COUPLING
4000184000	0	RE102-1520 END PLATE
02511108	5	MOTOR COUPLING FLANGE SAE "C"
022610227ABT	0	RE1020 SPLINED SHAFT B80x74

Additional Product Details

PDA Certificate No. 25-0346164-PDA

Issued on 11-Nov-2025

Expiring on 10-Nov-2030

PLANETARY REDUCTION GEAR RA 1023 T8S 60,56L ME132 WITH PINION M12 Z14 X0.48 BU105

GEARBOX CODE: ABT91L3GSH00600

Ratings:

Phase	Time percentage	Output torque T2	Output speed n2
	%	[Nm]	[rpm]
1	29.8	851	23.57
2	40	1701	23.57
3	30	2835	23.57
4	0.2	6114	23.57

Gear ratio: 1:60.56
Expected service life: 160000 h @ 6 rpm
Application factor: Ka = 1
Maximum static output torque: 7643 Nm

Drawing List:

Drawing No.	Revision No.	Drawing Title
DI13826	1	RA 1023 T8S ME132 GENERAL ASSEMBLY DRAWING
ST5702	1	RA 1023 T8S 60.56L ME132 SECTIONAL VIEW
LR-3134	1	RA 1023 T8S 60.56L ME132 PART LIST
026310116	1	RE1020 SPLINED COUPLING B80x74 – A70x64
025810102	3	RE1020 PLANETARY CARRIER PIN
025510100	1	RE1020 END PLATE
022210191	4	RE1020 PLANETARY CARRIER
2030024000	6	RE310 SUN GEAR
2030022800	5	RE310 BLANK WASHER FOR PIN
2030021500	12	RE310 PLANETARY GEAR
2030021300	22	RE300 RING GEAR
02771001	2	PARALLEL KEY 22x14x34
02741009	4	RE810 FIFTH WHEEL
02741007	6	RE310 SHIM ADJUSTMENT FIFTH WHEEL
02731552	2	RE810/1020 STEEL INTERMEDIATE FLANGE
02731037	4	RE310 RING GEAR COUPLING FLANGE
02731035	5	BEVEL GEAR PAIR FLANGE MEDIA
02631011	0	BEVEL GEAR REDUCTION COUPLING
02621039	5	RE1020 PLANETARY GEAR
02611121	4	RE1020 SUN GEAR
02611027	2	MIDDLE BEVEL GEAR PAIR PINION
02581006	14	RE310 PLANETARY CARRIER PIN
02551015	4	RE310 END PLATE
02501039	7	RE110 INPUT SUPPORT
02261026	6	SHAFT BEVEL GEAR PAIR CC120
02251010	6	RE810 FRONT CAP
02241166	2	RE110 INPUT COUPLING
02231028	10	RE1020 RING GEAR
02231010	4	CC120 RING GEAR
02221056	13	RE310 PLANETARY CARRIER
02211006	0	BEVEL GEAR PAIR CAP

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02201356	5	BEVEL GEAR PAIR HOUSING
02201029	12	RE810 BODY
025710210ABT	1	RE810 PINION M12 Z14 x0.48 BU105
025710210	8	RE810 PINION M12 Z14 x0.48 BU105
022610228ABT	0	RE810 SPLINED SHAFT B70x64
022610228	2	RE810 SPLINED SHAFT B70x64
4000183200	0	RE810 END PLATE
ABT91L3GSH00600	0	ABS TYPE TEST REPORT DATED 7-MAY-2015

Additional Product Details

PDA Certificate No. 25-0346164-PDA

Issued on 11-Nov-2025

Expiring on 10-Nov-2030

**PLANETARY REDUCTION GEAR RA 1023 DBS S 52.9 P12 Z12 X0.5 WITH PINION M12 Z12 X0.48
BU100**

GEARBOX CODE: ABT91L3GS000004

Ratings:

Phase	Time percentage	Output torque T2	Output speed n2
	%	[Nm]	[rpm]
1	10	3431	27.5
2	20	2968	27.5
3	30	2464	27.5
4	30	1900	27.5
5	9.7	1228	27.5
6	0.2	5345	27.5
7	0.1	6681	0.01

Gear ratio: 1:52.9
Expected Output Pinion service life:
57.6 million cycles - equivalent to:
35000h @ 27.5 rpm
Application factor: Ka = 1
Maximum static output torque: 6681 Nm
Nominal Input Braking Torque: 126.65 Nm

Drawing List:

Drawing No.	Revision No.	Drawing Title
DI21576	1	RA 1023 DBS ME160 GENERAL ASSEMBLY DRAWING
ST10364	1	RA 1023 DBS52.9I ME160 SECTIONAL VIEW
LR-5569	2	RA 1023 DBS52.9I ME160 PART LIST
02731552	2	STEEL INTERMEDIATE FLANGE RE 810/1020
022210616	2	PLANETARY CARRIER R=5.33
022210614	3	PLANETARY CARRIER R=3.6 CANTILEVERED PIN
025810129	6	PLANETARY CARRIER PIN RE 510/610 (CANTILEVERED PIN)
027410148	1	SHIM ADJUSTMENT FIFTH WHEEL 46.7x31.9x1 RE 510
027410180	1	THRUST BEARING 50X31.1X3.2 RE 510-610
026210176	1	PLANETARY GEAR R=5.33 (CANTILEVERED PIN RE 510)
-	0	MAX STATIC TORQUE RE 510 5.33
022610227	3	RE1020 SPLINED COUPLING B80x74
022610227ABT	0	RE1020 SPLINED SHAFT B80x74
025810102	3	RE1020 PLANETARY CARRIER PIN
025510100	1	RE1020 END PLATE
022210126	9	RE1020 PLANETARY CARRIER
2030032000	7	RE510 SUN GEAR
2030030900	10	RE510 RING GEAR
2030030600	24	RE500 RING GEAR
02771001	2	PARALLEL KEY 22X14X34
02741009	4	RE810 FIFTH WHEEL
02741007	6	RE310 SHIM ADJUSTMENT FIFTH WHEEL
02731043	10	RE810/1020 STEEL INTERMEDIATE FLANGE
02731037	4	RE310 RING GEAR COUPLING FLANGE
02731035	5	BEVEL GEAR FLANGE

Additional Product Details

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02631011	0	REDUCTION COUPLING 58x53
02621039	5	RE1020 PLANETARY GEAR
02611121	4	RE1020 SUN GEAR
0261105100	1	BEVEL GEAR PINION CC120
02581014	6	RE510 PLANETARY CERRIER PIN
02551015	4	RE310 END PLATE
02261026	6	SHAFT BEVEL GEAR PAIR CC120
022510143	2	RE1020 HOLDER SEAL CAP
02231028	10	RE1020 RING GEAR
2231010	4	CROWN GEAR WHEEL CC120
02221156	7	RE510 PLANETARY CARRIER (TURNED)
02211006	0	BEVEL GEAR PAIR CAP
02201356	5	BEVEL GEAR PAIR HOUSING
022010226	6	RE1020 GEARBOX BODY
025710296ABT	1	RE1020-1520 PINION M12 Z12 X0.5 BU100
025710296	6	RE1020-1520 PINION M12 Z12 X0.5 BU100
4000184000	0	RE1020-1520 END PLATE
2029992300	13	RE110-210 DIRECT INPUT SUPPORT ME160
2029992500	1	SEAL CAP ME160
2029992400	8	INPUT COUPLING ME160

Additional Product Details

PDA Certificate No. 25-0346164-PDA

Issued on 11-Nov-2025
Expiring on 10-Nov-2030

PLANETARY REDUCTION GEAR RE 1023 T8S 81 ST BG WITH PINION M12 Z14 X0.48 BU105

GEARBOX CODE: ABT91L3G3H00810

Ratings:

Phase	Time percentage	Output torque T2	Output speed n2
	%	[Nm]	[rpm]
1	29.8	851	23.57
2	40	1701	23.57
3	30	2835	23.57
4	0.2	6114	23.57

Gear ratio: 1:81.0
Expected service life: 160000 h @ 6 rpm
Application factor: Ka = 1
Maximum static output torque: 7643 Nm

Drawing List:

Drawing No.	Revision No.	Drawing Title
DI13827	1	RE 1023 T8S ST BG GENERAL ASSEMBLY DRAWING
ST5861	1	RE 1023 T8S 81 ST BG SECTIONAL VIEW
LR-3133	2	RE 1023 T8S 81 ST BG PART LIST
022210616	2	PLANETARY CARRIER R=5.33
022210614	3	PLANETARY CARRIER R=3.6 CANTILEVERED PIN
025810129	6	PLANETARY CARRIER PIN RE 510/610 (CANTILEVERED PIN)
027410148	1	SHIM ADJUSTMENT FIFTH WHEEL 46.7x31.9x1 RE 510
027410180	1	THRUST BEARING 50X31.1X3.2 RE 510-610
026210176	1	PLANETARY GEAR R=5.33 (CANTILEVERED PIN RE 510)
-	0	MAX STATIC TORQUE RE 510 5.33
4000067200	0	SPLINED COUPLING 12/24 DP Z14
026310116	1	RE1020 SPLINED COUPLING B80X74 – A70X64
025810102	3	RE1020 PLANETARY CARRIER PIN
025510100	1	RE1020 END PLATE
022210191	4	RE1020 PLANETARY CARRIER
2030052100	7	EH202 SUN GEAR
2030032000	7	RE510 SUN GEAR
2030030900	10	RE510 PLANETARY GEAR
2030030600	24	RE500 RING GEAR
027310487	1	RE310/510 STEEL INTERMEDIATE FLANGE
2030010800	6	RE210 PLANETARY GEAR
402004000	4	RE100 RING
02741009	4	RE810 FIFTH WHEEL
02741008	1	RE810 BRONZE PAD
02741007	6	RE310 RING
02731552	2	RE810/1020 STEEL INTERMEDIATE FLANGE
02621039	5	RE1020 PLANETARY GEAR
02611121	4	RE1020 SUN GEAR
02581035	5	RE210 PLANETARY CARRIER PIN
02581014	6	RE510 PLANETARY CARRIER PIN

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02551015	4	RE310 END PLATE
02551010	4	RE110 END PLATE
02511108	5	MOTOR COUPLING FLANGE
02501003	15	RE110 INPUT SUPPORT
02251010	6	RE810 CAP
02241005	12	INPUT COUPLING SHAFT
02231028	10	RE1020 RING GEAR
02231009	12	RE210 RING GEAR
02221156	7	RE510 PLANETARY CARRIER (TURNED)
02221033	6	RE100 PLANETARY CARRIER
02221019	2	RE100 PLANETARY CARRIER
02201029	12	RE810 BODY
025710210ABT	1	RE810 PINION M12 Z14 X0.48 BU105
025710210	8	RE810 PINION M12 Z14 X0.48 BU105
022610228ABT	0	RE810 SPLINED SHAFT B70X64
022610228	2	RE810 SPLINED SHAFT B70X64

Additional Product Details

PDA Certificate No. 25-0346164-PDA

Issued on 11-Nov-2025

Expiring on 10-Nov-2030

PLANETARY REDUCTION GEAR RA 1023 DBS S 61.7 ME160 with pinion M16 Z14 X0.5 BU125

GEARBOX CODE: ABT91L3GSH00611

Ratings:

Phase	Time percentage	Output torque T2	Output speed n2
	%	[Nm]	[rpm]
1	99.8	3502	23.57
2	0.2	9054	23.57

Gear ratio: 1:61.7
Expected service life: 160000 h @ 6 rpm
Application factor: Ka = 1
Maximum static output torque: 11317 Nm

Drawing List:

Drawing No.	Revision No.	Drawing Title
DI14478	2	RA 1023 DBS S ME160 GENERAL ASSEMBLY DRAWING
ST6792	2	RA 1023 DBS S ME160 SECTIONAL VIEW
LR-3683	2	RA 1023 DBS S 61.7 ME160 PART LIST
022210616	2	PLANETARY CARRIER R=5.33
022210614	3	PLANETARY CARRIER R=3.6 CANTILEVERED PIN
025810129	6	PLANETARY CARRIER PIN RE 510/610 (CANTILEVERED PIN)
027410148	1	SHIM ADJUSTMENT FIFTH WHEEL 46.7x31.9x1 RE 510
027410180	1	THRUST BEARING 50X31.1X3.2 RE 510-610
026210176	1	PLANETARY GEAR R=5.33 (CANTILEVERED PIN RE 510)
-	0	MAX STATIC TORQUE RE 510 5.33
4000071700	2	0.5 LT OIL VESSEL
2030032000	7	RE510 SUN GEAR
2030030900	10	RE510 PLANETARY GEAR
2030030600	24	RE500 RING GEAR
2029992300	13	RE 110 DIRECT INPUT SUPPORT
4000184000	0	RE1020 END PLATE
026115100	4	CC120 PINION
025810102	3	RE1020 PLANETARY CARRIER PIN
025710201ABT	0	RE1520 PINION M16 Z14 x0.5 BU125
025710201	5	RE1520 PINION M16 Z14 x0.5 BU125
025510100	1	RE1020 END PLATE
022610227ABT	0	RE1020 SPLINED SHAFT B80x74
022610227	3	RE1020 SPLINED SHAFT B80x74
022510143	2	RE1020 HOLDER SEAL CAP
2231010	2	CC120 CROWN GEAR
022210126	9	RE1020 PLANETARY CARRIER
022010226	6	RE1020 GEARBOX BODY
2029992500	1	SEAL CAP ME160-180
2029992400	8	RE110 INPUT COUPLING ME160
02771001	2	PARALLEL KEY 22x14x34
02741009	4	RE810 FIFTH WHEEL
02741007	6	RE310 SHIM ADJUSTMENT FIFTH WHEEL

Additional Product Details

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02731552	2	RE810/1020 STEEL INTERMEDIATE FLANGE
02731037	4	RE310 RING GEAR COUPLING FLANGE
02731035	5	BEVEL GEAR PAIR FLANGE
02631011	0	BEVEL GEAR REDUCTION COUPLING
02621040	4	RE1020 PLANETARY GEAR
02611122	5	RE1020 SUN GEAR
02581014	6	RE510 PLANETARY CERRIER PIN
02551015	4	RE310 END PLATE
02261026	6	SHAFT BEVEL GEAR PAIR CC120
02231028	10	RE1020 RING GEAR
02221156	7	RE510 PLANETARY CARRIER (TURNED)
02211006	0	BEVEL GEAR COVER
02201356	5	BEVEL GEAR PAIR HOUSING
ABT91L3GSH00611	0	ABS TYPE TEST REPORT DATED 8-MAY-2015

Additional Product Details

PDA Certificate No. 25-0346164-PDA

Issued on 11-Nov-2025

Expiring on 10-Nov-2030

PLANETARY REDUCTION GEAR RA 1023 DBS S 52.9 ME160 WITH PINION M14 Z12 X0.5

GEARBOX CODE: ABT91L3GS000003

Ratings:

Phase	Time percentage	Output torque T2	Output speed n2
	%	[Nm]	[rpm]
1	10	4749	27.5
2	20	3908	27.5
3	30	3050	27.5
4	30	2167	27.5
5	9.7	1239	27.5
6	0.2	7932	27.5
7	0.1	9915	0.01

Gear ratio: 1:52.9
Expected Output Pinion service life:
57.6 million cycles - equivalent to:
160000 h @ 6 rpm for Intermittent service
35000h @ 27.5 rpm for continuous service
Application factor: Ka = 1
Maximum static output torque: 9915 Nm

Drawing List:

Drawing No.	Revision No.	Drawing Title
DI17251	2	RA 1023 DBS S ME160 GENERAL ASSEMBLY DRAWING
ST9943	1	RA 1023 DBS S ME160 SECTIONAL VIEW
LR-4944	2	RA 1023 DBS S 52.9 ME160 PART LIST
02731552	2	STEEL INTERMEDIATE FLANGE RE 810/1020
022210616	2	PLANETARY CARRIER R=5.33
022210614	3	PLANETARY CARRIER R=3.6 CANTILEVERED PIN
025810129	6	PLANETARY CARRIER PIN RE 510/610 (CANTILEVERED PIN)
027410148	1	SHIM ADJUSTMENT FIFTH WHEEL 46.7x31.9x1 RE 510
027410180	1	THRUST BEARING 50X31.1X3.2 RE 510-610
026210176	1	PLANETARY GEAR R=5.33 (CANTILEVERED PIN RE 510)
-	0	MAX STATIC TORQUE RE 510 5.33
2030032000	7	RE510 SUN GEAR
2030030900	10	RE500 PLANETARY GEAR
2030030600	24	RE500 RING GEAR
2029992400	8	RE110 INPUT COUPLING
2029992300	13	RE110 DIRECT INPUT SUPPORT ME 160
4000184000	0	END PLATE EP 150 T-H
026115100	4	CC120 PINION 1:2.78
025810102	3	RE1020 PLANETARY CARRIER PIN
025710299ABT	1	RE1520 PINION M14 Z12 X0.5 BU100
025710299	3	RE1520 PINION M14 Z12 X0.5 BU100
025510100	1	RE1020 END PLATE
022610227ABT	0	RE1020-1520 SPLINED SHAFT B80X74
022610227	3	RE1020 SPLINED SHAFT B80X74
022510143	2	RE1020 HOLDER SEAL CAP
022310100	2	CC120 CROWN GEAR 1:2.78
022210126	9	RE1020 PLANETARY CARRIER

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022010226	6	RE1020 GEARBOX BODY
02741009	4	RE810 FIFTH WHEEL
02741007	6	RE310 SHIM ADJUSTMENT FIFTH WHEEL
02731552	2	RE810/1020 STEEL INTERMEDIATE FLANGE
02731037	4	RE310 FLANGE
02731035	5	BEVEL GEAR FLANGE
02631011	0	BEVEL GEAR SPLINED COUPLING
02621039	5	RE1020 PLANETARY GEAR
02611121	4	RE1020 SUN GEAR
02581014	6	RE510 PLANETARY CARRIER PIN
02551015	4	RE310 END PLATE
02261026	6	BEVEL GEAR OUTPUT SHAFT
02231028	10	RE1020 RING GEAR
02221156	7	RE510 PLANETARY CARRIER
02211006	0	BEVEL GEAR CAP
02201356	5	CC120 CARTER

Additional Product Details

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Issued on 11-Nov-2025

Expiring on 10-Nov-2030

PLANETARY REDUCTION GEAR RE 1023 DBS S 81 ST BG WITH PINION M16 Z14 X0.5 BU125

GEARBOX CODE: ABT91L3GSH00810

Ratings:

Phase	Time percentage	Output torque T2	Output speed n2
	%	[Nm]	[rpm]
1	99.8	3502	23.57
2	0.2	9054	23.57

Gear ratio: 1:81.0
Expected service life: 160000 h @ 6 rpm
Application factor: Ka = 1
Maximum static output torque: 11317 Nm

Drawing List:

Drawing No.	Revision No.	Drawing Title
DI12718	1	RE 1023 DBS S ST BG GENERAL ASSEMBLY DRAWING
ST5859	1	RE 1023 DBS S 81 ST BG SECTIONAL VIEW
LR-3132	2	RE 1023 DBS S 81 ST BG PART LIST
022210616	2	PLANETARY CARRIER R=5.33
022210614	3	PLANETARY CARRIER R=3.6 CANTILEVERED PIN
025810129	6	PLANETARY CARRIER PIN RE 510/610 (CANTILEVERED PIN)
027410148	1	SHIM ADJUSTMENT FIFTH WHEEL 46.7x31.9x1 RE 510
027410180	1	THRUST BEARING 50X31.1X3.2 RE 510-610
026210176	1	PLANETARY GEAR R=5.33 (CANTILEVERED PIN RE 510)
-	0	MAX STATIC TORQUE RE 510 5.33
4000067200	0	SPLINED COUPLING 12/24 DP Z14
025810102	3	RE1020 PLANETARY CARRIER PIN
025510100	1	RE1020 END PLATE
4000184000	0	RE 1020-1520 END PLATE
022510143	2	RE1020 HOLDER SEAL CAP
022210126	9	RE1020 PLANETARY CARRIER
022010169	5	RE1020 DBS GEARBOX BODY
2030052100	7	EH202 SUN GEAR
2030032000	7	RE510 SUN GEAR
2030030900	10	RE510 PLANETARY GEAR
2030030600	24	RE500 RING GEAR
027310487	1	RE310/510 STEEL INTERMEDIATE FLANGE
2030010800	6	RE210 PLANETARY GEAR
402004000	4	RE110 FIFTH WHEEL
02741009	4	RE810 FIFTH WHEEL
02741008	1	RE810 BRONZE PAD
02741007	6	RE310 SHIM ADJUSTMENT FIFTH WHEEL
02731552	2	RE810/1020 STEEL INTERMEDIATE FLANGE
02621039	5	RE1020 PLANETARY GEAR
02611121	4	RE1020 SUN GEAR
02581035	5	RE210 PLANETARY CARRIER PIN
02581014	6	RE510 PLANETARY CARRIER PIN

Additional Product Details

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02551015	4	RE310 END PLATE
02551010	4	RE110 END PLATE
02511108	5	MOTOR COUPLING FLANGE
02501003	15	RE110 INPUT SUPPORT
02241005	12	INPUT COUPLING SHAFT
02231028	10	RE1020 RING GEAR
02231009	12	RE210 RING GEAR
02221156	7	RE510 PLANETARY CARRIER (TURNED)
02221033	6	RE110 PLANETARY CARRIER (TURNED)
02221019	2	RE110 PLANETARY CARRIER
025710201ABT	0	RE1520 PINION M16 Z14 x0.5 BU125
025710201	5	RE1520 PINION M16 Z14 x0.5 BU125
022610227ABT	0	RE1020 SPLINED SHAFT B80x74
022610227	3	RE1020 SPLINED SHAFT B80x74

Additional Product Details

PDA Certificate No. 25-0346164-PDA

Issued on 11-Nov-2025

Expiring on 10-Nov-2030

PLANETARY REDUCTION GEAR RA 1523 DBS S 62.15 ME180 WITH PINION M16 Z14 X0.48 BU140

GEARBOX CODE: ABT91L3HSH00623

Ratings:

Phase	Time percentage	Output torque T2	Output speed n2
	%	[Nm]	[rpm]
1	99.8	5050	23.57
2	0.2	11808	23.57

Gear ratio: 1:62.15
Expected service life: 160000 h @ 6 rpm
Application factor: Ka = 1
Maximum static output torque: 14760 Nm

Drawing List:

Drawing No.	Revision No.	Drawing Title
DI14475	4	RA 1523 DBS S ME180 GENERAL ASSEMBLY DRAWING
ST6794	1	RA 1523 DBS S 62.15 ME180 SECTIONAL VIEW
LR-3752	3	RA 1523 DBS S 62.15 ME180 PART LIST
22210615	3	PLANETARY CARRIER R=4.25 CANTILEVER
22210614	3	PLANETARY CARRIER R=3.6 CANTILEVERED PIN
25810129	6	PLANETARY CARRIER PIN RE 510/610 (CANTILEVERED PIN)
27410148	1	SHIM ADJUSTMENT FIFTH WHEEL 46.7x31.9x1 RE 510
27410180	1	THRUST BEARING 50X31.1X3.2 RE 510-610
26210173	1	PLANETARY GEAR R=4.25 (CANTILEVERED PIN RE 510)
-	0	MAX STATIC TORQUE RE 510 4.25
2030030800	10	RE 510 PLANETARY GEAR
4000184000	0	RE1024-1520 BOTTOM
029710757	2	RE1520 GEARBOX BODY
029710535	1	RE1520 BEARING SPACER
026115100	4	CC120 PINION
025710165ABT	2	RE1520 PINION M16 Z14 x0.48 BU140
025710165	12	RE1520 PINION M16 Z14 x0.48 BU140
025510100	1	RE1020 END PLATE
022610225ABT	0	RE1520 SPLINED SHAFT B80x74
022610225	3	RE1520 SPLINED SHAFT B80x74
022510140	1	RE1520 SEAL HOLDER
2231010	4	CC120 CROWN GEAR
2030031900	6	RE500 SUN GEAR
2030030600	24	RE500 RING GEAR
2029992600	6	RE110 INPUT COUPLING ME180
2029992500	1	RE100 SEALING CAP
2029992300	13	RE110 DIRECT INPUT SUPPORT ME160-180
02771001	2	PARALLEL KEY 22x14x34
02741007	6	RE310 SHIM ADJUSTMENT FIFTH WHEEL
02731288	3	RE1520 BEARING SPACER
027310485	3	RE1520/2000 STEEL INTERMEDIATE FLANGE
02731037	4	RE310 RING GEAR COUPLING FLANGE

Additional Product Details

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02731035	5	BEVEL GEAR PAIR FLANGE
02631011	0	CC120 REDUCTION COUPLING
02621037	6	RE1520 PLANETARY GEAR
02611117	6	RE1520 SUN GEAR
02581021	5	RE1520 PLANETARY CARRIER PIN
02581014	6	RE510 PLANETARY CARRIER PIN
02551015	4	RE310 END PLATE
02261026	6	SHAFT BEVEL GEAR PAIR CC120
02231027	15	RE1520 RING GEAR
02221260	9	RE1520 PLANETARY CARRIER
02221156	7	RE510 PLANETARY CARRIER (TURNED)
02211006	0	BEVEL GEAR PAIR CAP
02201356	5	CC120 BEVEL GEAR PAIR HOUSING
02201187	8	RE1520 GEARBOX BODY
ABT91L3HSH00623	0	ABS TYPE TEST REPORT DATED 7-MAY-2015

Additional Product Details

PDA Certificate No. 25-0346164-PDA

Issued on 11-Nov-2025

Expiring on 10-Nov-2030

PLANETARY REDUCTION GEAR RE 1523 DBS S 80.57 ST BG WITH PINION M16 Z14 X0.48 BU140

GEARBOX CODE: ABT91L3HS300800

Ratings:

Phase	Time percentage	Output torque T2	Output speed n2
	%	[Nm]	[rpm]
1	99.8	5050	23.57
2	0.2	11808	23.57

Gear ratio: 1:80.57
Expected service life: 160000 h @ 6 rpm
Application factor: Ka = 1
Maximum static output torque: 14760 Nm

Drawing List:

Drawing No.	Revision No.	Drawing Title
DI13003	3	RE 1523 DBS S ST BG GENERAL ASSEMBLY DRAWING
ST5309	2	RE 1523 DBS S 80.57 ST BG SECTIONAL VIEW
LR-3128	2	RE 1523 DBS S 80.57 ST BG PART LIST
022210614	3	PLANETARY CARRIER R=3.6 CANTILEVERED PIN
025810129	6	PLANETARY CARRIER PIN RE 510/610 (CANTILEVERED PIN)
027410148	1	SHIM ADJUSTMENT FIFTH WHEEL 46.7x31.9x1 RE 510
027410180	1	THRUST BEARING 50X31.1X3.2 RE 510-610
026210175	1	PLANETARY GEAR R=3.6 (CANTILEVERED PIN RE 510)
-	0	MAX STATIC TORQUE RE 510 3.6
4000067200	0	SPLINED COUPLING 12/24 DP Z14
2030030700	10	RE510 PLANETARY GEAR
4000184000	0	RE1020 END PLATE
029710536	1	RE1520 GEARBOX BODY
029710535	1	RE1520 BEARING SPACER
025710165ABT	2	RE1520 PINION M16 Z14 x0.48 BU140
025710165	12	RE1520 PINION M16 Z14 x0.48 BU140
025510100	1	RE1020 END PLATE
022610225ABT	0	RE1520 SPLINED SHAFT B80x74
022610225	3	RE1520 SPLINED SHAFT B80x74
022510140	1	RE1520 SEAL HOLDER
2030052100	7	EH202 SUN GEAR
2030031800	7	RE510 SUN GEAR
2030030600	24	RE500 RING GEAR
027310487	1	RE310/510 INTERMEDIATE FLANGE
2030010800	6	RE210 PLANETARY GEAR
402004000	4	RE100 FIFTH WHEEL
02741008	1	RE810 BRONZE PAD
02741007	6	RE310/510 SHIM ADJUSTMENT FIFTH WHEEL
027310485	3	RE1520/2000 STEEL INTERMEDIATE FLANGE
02621037	6	RE1520 PLANETARY GEAR
02611117	6	RE1520 SUN GEAR
02581035	5	RE210 PLANETARY CARRIER PIN

Additional Product Details

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02581021	5	RE1520 PLANETARY CARRIER PIN
02581014	6	RE510 PLANETARY CARRIER PIN
02551015	4	RE310 END PLATE
02551010	4	RE110 END PLATE
02511108	5	MOTOR COUPLING FLANGE
02501003	15	RE110 INPUT SUPPORT
02241005	12	SPLINED INPUT COUPLING
02231027	15	RE1520 RING GEAR
02231009	12	RE210 RING GEAR
02221260	9	RE1520 PLANETARY CARRIER
02221156	7	RE510 PLANETARY CARRIER (TURNED)
02221033	6	RE110 PLANETARY CARRIER (TURNED)
02221019	2	RE110 PLANETARY CARRIER