



Marine & Offshore

Certificate number: 63054/A0 BV

File number: RED190/1

Product code: 0353I

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

D-I INDUSTRIAL CO., LTD.

GYEONGSANGNAM-DO - KOREA (REPUBLIC OF)

for the type of product

REDUCTION GEARS FOR DIESEL ENGINES

Model DMT 330DL, 450DL, 600DL & 600BL

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 12 Jun 2029

For Bureau Veritas Marine & Offshore,

At BV PUSAN, on 12 Jun 2024,

Won-jun JANG

This certificate was created electronically and is valid without signature



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

DMT 330DL, 450DL, 600DL & 600BL Reduction gears

- One input - one output vertical offset
- reversible (2 clutches)

Permitted continuous duty ratings:

Model	DMT 330DL		
Reduction ratio	Input speed (rpm)	Power (kW)	Input torque (Nm)
2.61	2400	813.3	3236
3.1		813.3	3236
3.56		813.3	3236
4.13		813.3	3236
4.59		764	3040

Model	DMT 450DL		
Reduction ratio	Input speed (rpm)	Power (kW)	Input torque (Nm)
3.02	2400	1116.5	4443
3.28		1116.5	4443
3.56		1116.5	4443
4.07		1116.5	4443
4.48		985.9	3922
4.95		887.3	3530

Model	DMT 600BL		
Reduction ratio	Input speed (rpm)	Power (kW)	Input torque (Nm)
4.12	2300	1476.5	6130
4.48		1476.5	6130
5.11		1322.7	5491
5.62		1185.7	4923
5.91		1121.9	4658

Model	DMT 600DL		
Reduction ratio	Input speed (rpm)	Power (kW)	Input torque (Nm)
2.28	2300	1476.5	6130
2.53		1476.5	6130
3.02		1476.5	6130
3.28		1476.5	6130
3.56		1476.5	6130
4.07		1395.9	5796
4.48		1228.2	5100
4.95		1110.1	4609

2. DOCUMENTS AND DRAWINGS :

See Appendix.

3. TEST REPORTS :

N/A.

4. APPLICATION / LIMITATION :

4.1 - The following component(s) shall comply with the requirements of the relevant Bureau Veritas rules and be type approved:

- flexible hoses
- oil coolers

4.2 - These gear boxes may be fitted on ships granted with an automation notation provided that all the requirements stated in our Rules are complied with.

4.3 - This Certificate does not cover Ice Class Notations applications. For the Ice Class Notations, the ratings stated in §1 above are to be re-evaluated according to the requirements of Pt F, Ch 8, Sec 3 of the Rules.

4.4 - The number of oil pumps is to be checked for each application.

4.5 - The reduction-gears must be equipped with the parts listed in the manufacturer's Parts Catalog exclusively.

4.6 - The reduction-gears must be delivered with the relevant documentation for their maintenance and their operation.

4.7 - The initial survey made at the factory does not prejudice of any additional test or survey which may be required for some specific applications, in order to comply with the related Rules of the Society.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The **DMT 330DL, 450DL, 600DL & 600BL gearboxes** are to be supplied by **D-I INDUSTRIAL CO., LTD.** in compliance with the type and the requirements described in this certificate.

5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.

5.3 - BV product certificate is required.

5.4 - For information, **D-I INDUSTRIAL CO., LTD.** has declared to Bureau Veritas the following production site(s):

D-I INDUSTRIAL CO., LTD.

13, Namgang-ro 1367beon-gil

Jinju-si

GYEONGSANGNAM-DO

KOREA (REPUBLIC OF)

6. MARKING OF PRODUCT :

- Serial number
- Rated power and input/output speed
- Date of workshop trial
- Reduction ratio
- Bureau Veritas' Marks.

7. OTHERS :

It is **D-I INDUSTRIAL CO., LTD.**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

***** END OF CERTIFICATE *****

APPENDIX TO BV TAC63054/A0

Drawings DMT330DL

1) Marine Transmission	(D. No. BV 330000-1)
2) Marine Transmission	(D. No. BV 330000-2)
3) Hydraulic circuit	(D. No. BV 330000-3)
4) Input shaft Group	(D. No. BV 330100)
5) Astern shaft Group	(D. No. BV 330200)
6) Pinion	(D. No. BV 330117 A)
7) Pinion	(D. No. BV 330117 B)
8) Pinion	(D. No. BV 330117 C)
9) Pinion	(D. No. BV 330117 D)
10) Pinion	(D. No. BV 330117 E)
11) Clutch Housing, input	(D. No. BV 330103)
12) Clutch Housing, astern	(D. No. BV 330203)
13) Shaft, input	(D. No. BV 330102)
14) Shaft, astern	(D. No. BV 330202)
15) Plate, sintered	(D. No. BV 260107)
16) Plate, steel	(D. No. BV 280108)
17) Output shaft Group	(D. No. BV 330300)
18) Gear, output	(D. No. BV 750302 A~C)
19) Gear, output	(D. No. BV 300302 D)
20) Gear, output	(D. No. BV 300302 E)
21) Shaft, output	(D. No. BV 330301)
22) Coupling, input	(D. No. BV 330008)
23) Coupling, output	(D. No. BV 300306)
24) Case	(D. No. BV 330001)
25) Cover, Case	(D. No. BV 330004)
26) Carrier, bearing	(D. No. BV 330006)

Note : the drawings marked without revision index have the index -

APPENDIX TO BV TAC63054/A0

Drawings **DMT450DL**

1) Marine Transmission	(D. No. BV 452000-1)
2) Marine Transmission	(D. No. BV 452000-2)
3) Hydraulic circuit	(D. No. BV 452000-3)
4) Input shaft Group	(D. No. BV 452100)
5) Astern shaft Group	(D. No. BV 452200)
6) Pinion	(D. No. BV 452117 A)
7) Pinion	(D. No. BV 452117 B)
8) Pinion	(D. No. BV 452117 C)
9) Pinion	(D. No. BV 452117 D)
10) Pinion	(D. No. BV 452117 E)
11) Pinion	(D. No. BV 452117 F)
12) Clutch Housing, input	(D. No. BV 452103)
13) Clutch Housing, astern	(D. No. BV 452203)
14) Shaft, input	(D. No. BV 452102)
15) Shaft, astern	(D. No. BV 452202)
16) Plate, sintered	(D. No. BV 400107)
17) Plate, steel	(D. No. BV 400108)
18) Output shaft Group	(D. No. BV 452300)
19) Gear, output	(D. No. BV 450302 A~C)
20) Gear, output	(D. No. BV 450302 D~F)
21) Shaft, output	(D. No. BV 452301)
22) Coupling, input	(D. No. BV 452008)
23) Coupling, output	(D. No. BV 450306)
24) Case	(D. No. BV 452001)
25) Cover, Case	(D. No. BV 452004)
26) Carrier, bearing	(D. No. BV 452006)

APPENDIX TO BV TAC63054/A0

Drawings **DMT600BL**

1) Marine Transmission	(D. No. BV 670000-1)
2) Marine Transmission	(D. No. BV 670000-2)
3) Hydraulic circuit	(D. No. BV 670000-3)
4) Input shaft Group	(D. No. BV W600100)
5) Astern shaft Group	(D. No. BV W600200)
6) Pinion	(D. No. BV 670117 A)
7) Pinion	(D. No. BV 670117 B)
8) Pinion	(D. No. BV 670117 C)
9) Pinion	(D. No. BV 670117 D)
10) Pinion	(D. No. BV W600117 G)
11) Sleeve, bearing	(D. No. BV W600121)
12) Clutch Housing, input	(D. No. BV W600103)
13) Clutch Housing, astern	(D. No. BV W600203)
14) Shaft, input	(D. No. BV W600102)
15) Shaft, astern	(D. No. BV W600202)
16) Plate, sintered	(D. No. BV 400107)
17) Plate, steel	(D. No. BV W600108)
18) Output shaft Group	(D. No. BV 670300)
19) Gear, output	(D. No. BV 670302 A)
20) Gear, output	(D. No. BV 670302 B)
21) Gear, output	(D. No. BV 670302 C)
22) Gear, output	(D. No. BV 670302 D)
23) Gear, output	(D. No. BV 670302 E)
24) Shaft, output	(D. No. BV 670301)
25) Coupling, input	(D. No. BV W600008)
26) Coupling, output	(D. No. BV 670306)
27) Case	(D. No. BV 670001)
28) Cover, Case	(D. No. BV 670004)
29) Carrier, bearing	(D. No. BV 670006)

APPENDIX TO BV TAC63054/A0

Drawings **DMT600DL**

1) Marine Transmission	(D. No. BV W600000-1)
2) Marine Transmission	(D. No. BV W600000-2)
3) Hydraulic circuit	(D. No. BV W600000-3)
4) Input shaft Group	(D. No. BV W600100)
5) Astern shaft Group	(D. No. BV W600200)
6) Pinion	(D. No. BV W600117 A)
7) Pinion	(D. No. BV W600117 B)
8) Pinion	(D. No. BV W600117 C)
9) Pinion	(D. No. BV W600117 D)
10) Pinion	(D. No. BV W600117 E)
11) Pinion	(D. No. BV W600117 F)
12) Pinion	(D. No. BV W600117 G)
13) Pinion	(D. No. BV W600117 H)
14) Sleeve, bearing	(D. No. BV W600121)
15) Clutch Housing, input	(D. No. BV W600103)
16) Clutch Housing, astern	(D. No. BV W600203)
17) Shaft, input	(D. No. BV W600102)
18) Shaft, astern	(D. No. BV W600202)
19) Plate, sintered	(D. No. BV 400107)
20) Plate, steel	(D. No. BV W600108)
21) Output shaft Group	(D. No. BV W600300)
22) Gear, output	(D. No. BV W600302 A)
23) Gear, output	(D. No. BV W600302 B)
24) Gear, output	(D. No. BV W600302 C)
25) Gear, output	(D. No. BV W600302 D)
26) Gear, output	(D. No. BV W600302 E)
27) Gear, output	(D. No. BV W600302 F)
28) Gear, output	(D. No. BV W600302 G)
29) Gear, output	(D. No. BV W600302 H)
30) Shaft, output	(D. No. BV W600301)
31) Coupling, input	(D. No. BV W600008)
32) Coupling, output	(D. No. BV W600306)
33) Case	(D. No. BV W600001)
34) Cover, Case	(D. No. BV W600004)
35) Carrier, bearing	(D. No. BV W600006)