



## Dong Yang Metal Ind. Co., Ltd.

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# SUPPORT YOUR POWER **DYM**

## Dong Yang Metal Ind. Co., Ltd.

[www.dymborg.com](http://www.dymborg.com)

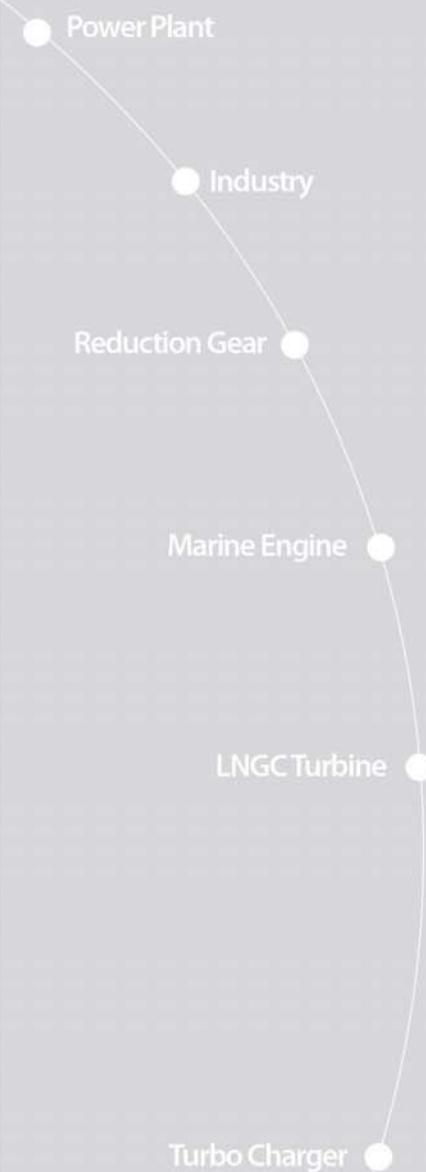
# Greetings

Dear sirs,  
Since 1981 the establishment of company, our business motto is  
"QUALITY PRIORITY AND TIMELY DELIVERY"  
We are keeping this spirit and we will keep on.  
Complying with the rapidly changing of industrial circumstances,  
We do renovate the machining facility and quality control program,  
which generate to produce the superior bearings meeting to  
customer's specification and higher efficiency.  
Our technology of bearing manufacturing cover the entire spectrum of  
industry and also for the marine engine application.  
We promise to devote our every efforts to ourselves as we set the pace  
for our customer's main project in the quality and the timely delivery.  
Thank you in advance for your kind consideration of us and we wish  
your company's prosperity in the year ahead.

Very truly yours,

*Y. C. Ahn*

Young Cheol, Ahn  
President



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# History of Company

## 1980's

- 1981 Established the company named "DONG YANG METAL IND. CO.,LTD." in Young-Do, Busan.
- 1986 Tilting pad journal bearing for the centrifugal compressor (32,000 rpm) and delivered to POSCO.
- 1986 Localized the Bearing for Heavy Loading Marine Diesel Engine.
- 1987 Manufactured white metal bearing for the engine (RTA84C, 54,000hp) of the project apl #1~#5 and delivered to HSD (EX.HANJUNG).

## 1990's

- 1989 Localized main turbine and generator bearing for nuclear power station and delivered to DOOSAN (EX.HANJUNG).
- 1991 Built second workshop in DaDae-Dong, Busan.
- 1994 ISO 9002, APPROVED BY DET NORSKE VERITAS Q.A
- 1995 Localized MAAG gear type radial-axial bearing for reduction gear box for frigate and delivered to MAAG, SWITZERLAND.
- 1997 Developed the sleeve bearing ass'y (Industrial Motor) LEECHEON ELECTRIC MFG. CO., LTD.
- 1998 Developed the journal brg'(16") for gas turbine (WESTING HOUSE).
- 1998 Localized the shell bearing for POSCO steel plant, hot rolling m/c (MORGAN TYPE).
- 1998 Developed the tilting thrust and journal bearing for turbo-chiller. (LG CABLE)
- 1998 Bearings of TRI-ENERGY (GE 324 Endshield Generator).
- 1999 Developed the tilting pad journal bearing for centrifugal compressor. (SAMSUNG, Gardner Denver U.S.A)
- 1999 7FH2 bearing and delivered to DOOSAN (EX.HANJUNG).
- 2000 Developed sleeve bearing (MHI model)39" & 42" for POSCO.

## 2000's

- 2001 Qualified by GE Power systems, U.S.A as a steam turbine & Generator Bearing supplier.
- 2001 Qualified by GE Oil & Gas Nuovo Pignone, Italy as a Centrifugal Compressor Bearing supplier.
- 2002 Qualified by POSCO, Korea as a shell & sleeve Bearing supplier.
- 2003 Qualified by MAN B&W, Denmark as a Thin shell Bearing supplier.
- 2003 Qualified by Hitachi, LTD. Power & Industrial systems, Japan as a Gas turbine Bearing supplier.
- 2004 Qualified by TOSHIBA Corporation, Japan as a Generator Bearing supplier.
- 2004 Qualified by Mitsubishi Heavy industries, LTD, Japan as a MET Turbo charger Bearing supplier.
- 2004 Contract with POSCO for shell & sleeve Bearing.
- 2004 Qualified by GE Power systems, U.S.A as a 390H type Endshield Generator Bearing and delivered to Harbin electric machinery co., LTD. Harbin, China.
- 2005 Company name changed to "DYM CO., LTD."
- 2005 Certified by BV as a White Metal Bearing for intenal Combustion Engines.
- 2005 Qualified by GE Power systems, U.S.A as a 330H type Endshield Generator Bearing.
- 2006 Supplied Radial Bearings for steam turbine to Siemens AG, Mulheim Germany.
- 2006 Voted Strategy Industry Leader Company in BUSAN.
- 2007 Contract with FORMOSA for Gear Shaft Bearing in Taiwan for GE.
- 2007 Supplied Thrust Plate for Nuclear Power to Nuclear Power Corporation India Limited.
- 2007 Qualified by GE for Gas Turbine Accessory Gear Unit, U.S.A as Gear Accessory Bearings
- 2007 Awarded US 5 million Export Tower.
- 2008 Voted Export Promising 100th Company to JAPAN (Ministry of Knowledge Economy)
- 2008 Qualified by SIEMENS, GERMANY as a Steam Turbine Bearing.
- 2008 Qualified by GE, Large Steam Turbine Generator Bearing.
- 2009 Qualified by TOSHIBA for all of Nuclear Metal Bearing supplier.
- 2009 Voted Venture Business Company. ( Korea Technology Finance Corporation)
- 2010 ISO 14001, OHSAS 18001 Approved by DET NORSKE VERITAS Q.A

## 2010's

# Synopsis

### 1.MARINE ENGINE

- Diesel Engine Bearing  
(Main Bearing, Guide Shoe, Thrust Pad & Segment.  
Top & Bottom End Bearing, Bushing etc.)
- Stern Tube Bush
- Bearing for Intermediate Shaft

### 2.ROLLING MACHINE

- Rolling mill back up roll chock Bearing
- MESTA oil Flooding Bearing
- Morgoil oil Flooding Bearing
- Spindle carrier Bearing for mill
- Mill roll Bearing

### 3.HEAVY ELECTRIC

- Bearing for Generator
- Bearing for Turbine
- Bearing for Blower
- Bearing for Hydro-electric Power
- Thrust Bearing and Segment for Turbine
- Plain Bearing for Gas Turbine

### 4.CEMENT & PULVERIZED COAL PLANT

- Journal Bearing for tube mill
- Journal Bearing for ball mill
- Journal Bearing for roll

### 5.GENERAL INDUSTRY

- Sleeve type half shell Bearing
- Combined type half shell Bearing
- Bearing for reduction gear
- Sugar plants roll mill Bearing

### 6.NUCLEAR, THERMAL & HYDRO POWER PLANT

- Turbine Bearing
- Generator Bearing

### 7.NAVY VESSEL

- Reduction Gear Box Bearing
- Journal / Axial Bearing
- Thrust Pad Bearing





# Quality system

## Quality and Environmental Management

DYM has been certified to the international management and environmental standards. We first introduced **ISO 9002 standard in 1994** and were certified according to **ISO 9001** standard for the production of high quality products and effective process. Also, DYM received **ISO 14001** standard which specifies the actual requirements for an organization's environmental management system and **OHSAS 18001** certificate proving that its operations are safe for both its employees and the surrounding environment. This is another step towards becoming a role model with respect to efficient environmental work, and achieving our overall goal of zero tolerance culture with regard to work-related injuries/illnesses and environmental pollution.

## Inspection and Testing

The inspection and test setup is a tool to evaluate the competitiveness of bearing industries. At DYM the world class quality precision equipments and skilled manpower are our invaluable assets.

## Technical Supporting Firms & Institutes

**KIMS** (KOREA INSTITUTE OF MATERIALS SCIENCE)  
**ECKA GRANULES** - SUPPLIER OF WHITE METAL INGOT  
**KTA** (KOREA TECHNOPARK ASSOCIATION)

## NX6 3Dimension Modeling

High precision computing method, NX6, delivers data for simulation work based on the 3D-CAD method and improves the Quality of the products. With high performance tool, we can reduce the errors and apply to master data for machining.

- |                                  |   |   |
|----------------------------------|---|---|
| 1. Beforehand solution for error | ▶ | 1. Improve the Quality and reduce the lead time |
| 2. Be easy to feedback           |   | 2. Application to master data for machining     |
| 3. Data Verification             |   | 3. Cut expense                                  |

### NX Modeling



# Production facilities

## Extensive Manufacturing capabilities

To insure the production of an ever-extending range of parts, we have modern machinery set-up. It will bring a revolution to the production capability of our shop.

YAMAZAKI MAZAK NEXUS 8800 with 6 Pallet

- Maximum machining range :  $\phi$  1,450 X H 1,450/2,200 kg  
(FH 8,800 :  $\phi$  1,250 X H1,250/2,200 kg)

-STROKE

X : 1,400 mm

Y : 1,200 mm

Z : 1,325 mm

DOOSAN DS -130C

- Maximum machining range : L3,000 X H 2,000 X W1,600/1,500 kg  
(FH 4,000 X H2,000 X H1,600/1,500 kg)

-STROKE

X : 2,800 mm

Y : 1,800 mm

Z : 1,425 mm



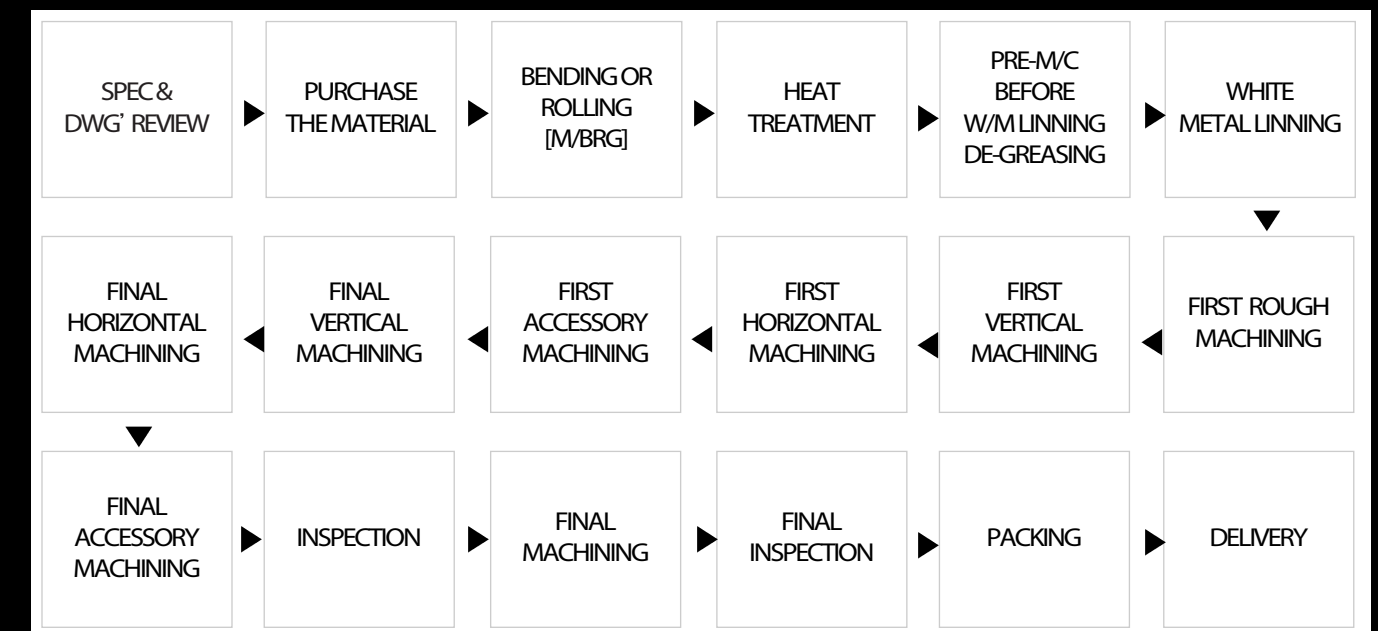
## POP & ERP System

Enterprise Resource Planning (ERP) is an integrated computer-based system use to manage internal and external resource, including tangible assets, financial resources, materials, and human resources.

Point of Product System (POP) can handle separated resources in each part of factory for order operating, factory inventory, process control and inspection data gathering.



## Manufacturing Process Map





# Power Plant

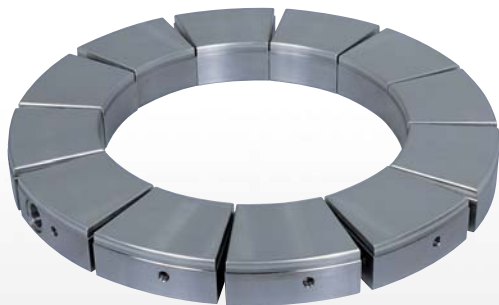
DYM makes the future with the challenge to a new world and unswerving R&D efforts. You shall be assured of our efforts for the world-highest precision and quality.

## HYDRO POWER PLANT

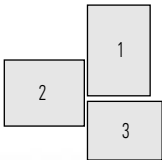


### Challenge for World Wide!

DYM new vision consist of development of technique and research. The Best Quality and Service They are promise with DYM



ITEM : THRUST PAD  
DIM : O.D562 × I.D373 × T50  
MAT'L : WJ2 / SS400

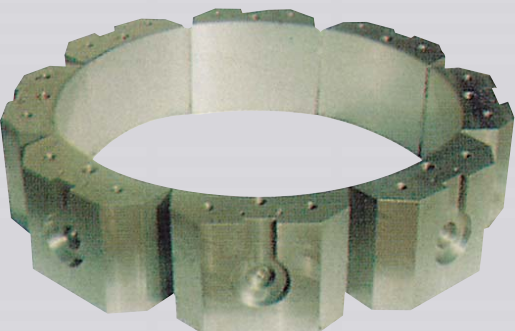


1	ITEM : MIDDLE BUSH	DIM : O.D350 × I.D320 × B315	MAT'L : BRONZE L.F.D UPB8 N13
2	ITEM : UPPER BUSH	DIM : O.D350 × I.D320 × B140	MAT'L : BRONZE L.F.D UPB8 N13
3	ITEM : LOWER BUSH	DIM : O.D360 × I.D320 × B229	MAT'L : BRONZE L.F.D UPB8 N13



ITEM : GUIDE BRG'  
DIM : O.D1350 × I.D950 × L750  
MAT'L : WJ2 / SS400

ITEM : LOWER GUIDE BRG'  
DIM : O.D780 × I.D470 × 150  
MAT'L : WJ2 / SS400



ITEM : GUIDE BRG'  
DIM : O.D1200 × I.D801 × B283  
MAT'L : WJ2 / SC46

ITEM : UPPER GUIDE BRG'  
DIM : O.D900 × I.D560 × 140  
MAT'L : WJ2 / SS400



# Power Plant

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## THERMAL POWER PLANT

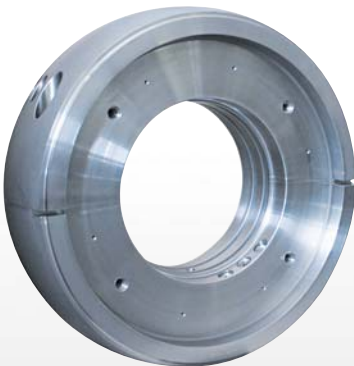


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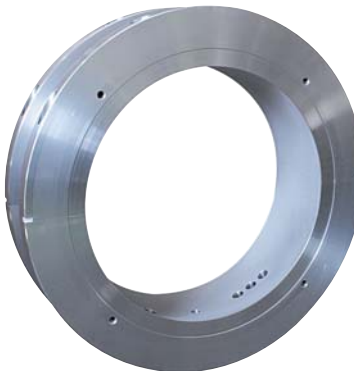
ITEM : SHORTEND BRG  
DIM :  $0.0927 \times 1.0534 \times H304$   
MAT'L : B21A14 / B50A517B2



ITEM : THRUST BRG CASING  
DIM :  $0.0901.7 \times 1.0431.8 \times 323.8(mm)$   
MAT'L : B21A14 / B50A517B2



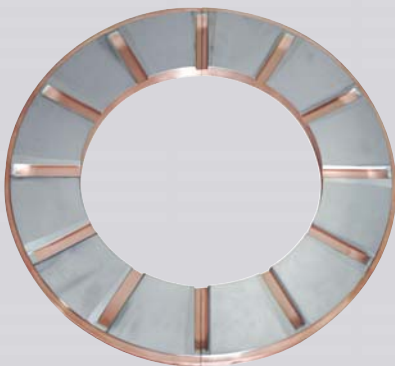
ITEM : LP BRG  
DIM :  $0.0317 \times 1.0228 \times B141$   
MAT'L : B21A14 / SM400B



ITEM : THRUST BRG RING  
DIM :  $0.01231.9 \times 1.0901.7 \times 304.8(mm)$   
MAT'L : B21A14 / B50A517B2



ITEM : HP BRG  
DIM :  $0.0222 \times 1.0165 \times B90$   
MAT'L : B21A14 / SM400B



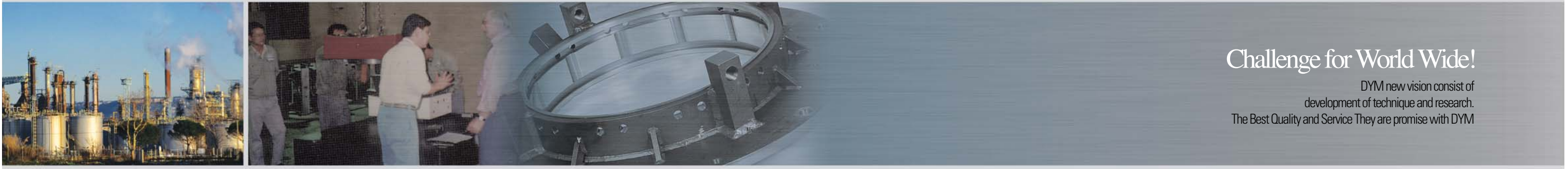
ITEM : THRUST PLATE  
DIM :  $0.0742.4 \times 1.0457.2 \times 38(mm)$   
MAT'L : B21A14 / B11B17X



# Power Plant

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## THERMAL POWER PLANT

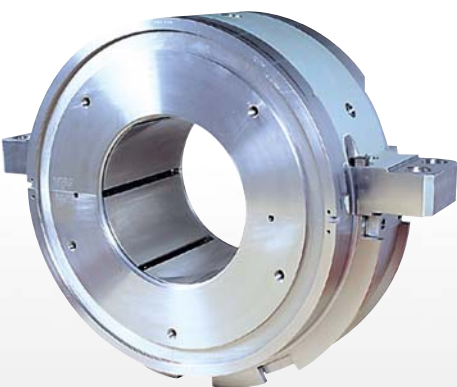


### Challenge for World Wide!

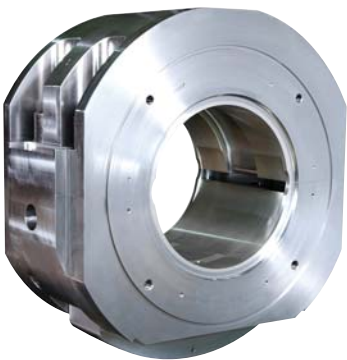
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ITEM : COMPLEX BEARING  
DIM : O.D1135.3 × I.D355 × 340 (mm)  
MAT'L : TEGOV738 / S25C



ITEM : DBL ' TILT PAD BRG '  
DIM : O.D864 × I.D376 × H331  
MAT'L : B21A14 / B50A517B2



ITEM : JOURNAL BEARING  
DIM : O.D1030 × I.D450 × 475 (mm)  
MAT'L : TEGOV738 / C22+N



ITEM : BRG ' RING (MID)  
DIM : O.D1098 × I.D876 × H263  
MAT'L : B50A517B2



ITEM : JOURNAL BEARING  
DIM : O.D940 × I.D450 × 420 (mm)  
MAT'L : TEGOV738 / S25C



ITEM : FRONT / REAR BEARING  
DIM : O.D480 × I.D356 × 280 (mm)  
MAT'L : WJ2 / S25C



# Power Plant

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## NUCLEAR POWER PLANT



### Challenge for World Wide!

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ITEM : LINER BRG ' & CASING ASS 'Y  
DIM ' : O.D1295 × I.D977 × H581  
MAT 'L : B21A14 / B50A517B2

ITEM : LINER BRG ' & CASING ASS 'Y  
DIM ' : O.D1408 × I.D863 × 810 (mm)  
MAT 'L : WJ2 / SF440A



ITEM : LINER BRG ' (BALANCE TEST BRG ')  
DIM ' : O.D820 × I.D480 × H390  
MAT 'L : B21A14 / B50A517B2

ITEM : BRG ' RING (INNER)  
DIM ' : O.D1521 × I.D1295 × 330 (mm)  
MAT 'L : SS400



ITEM : BRG ' RING (OUTER)  
DIM ' : O.D 1720 × I.D 1524 × 341 (mm)  
MAT 'L : SS400



# Power Plant

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## GAS TURBINE

## GENERATOR

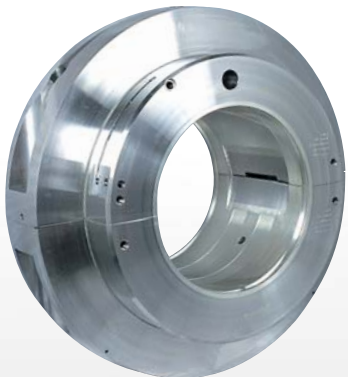


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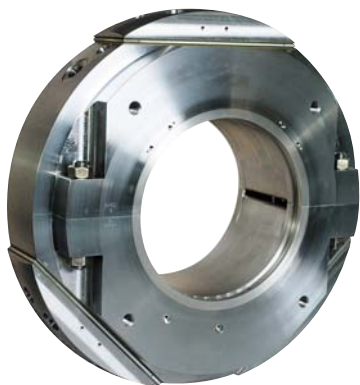
ITEM : GAS TURBINE TILTING PAD BRG'  
DIM' : O.D380 × I.D230 × 130(mm)  
MAT'L : HOYT 11R / B50A753



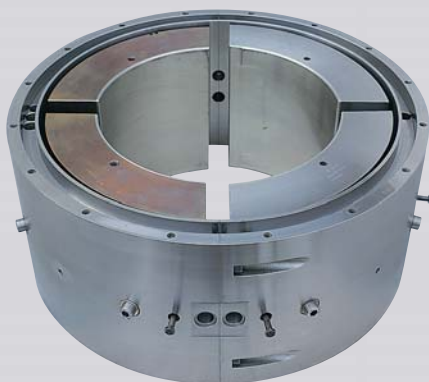
ITEM : 7FH2 GEN. ENDSHIELD BRG '  
DIM' : O.D812.8 × I.D406.9 × B273  
MAT'L : B21A14 / B50A517B2 (C2)



ITEM : GAS TURBINE LINER BRG'  
DIM' : O.D360 × I.D255 × 210(mm)  
MAT'L : B21A14 / B50A753



ITEM : BEARING METAL  
DIM' : O.D880 × I.D406.9 × 280.5(mm)  
MAT'L : WJ2 / SS400



ITEM : SPA.PJT 16" JOURNAL BRG' ASS'Y  
DIM' : O.D577 × I.D406 × T285  
MAT'L : HOYT S172 / CR-COPPER ALLOY / SS400



ITEM : HYD SEAL RING  
DIM' : O.D635 × I.D559 × 21.8(mm)  
MAT'L : B21A14 / B50A517B2



# Industry

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## COMPRESSOR



### Challenge for World Wide!

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ITEM : THRUST BEARING  
DIM : O.D 248 × I.D 60 × 64.5 (mm)  
MAT'L : HOYTS172 / S20C



ITEM : INP. SHAFT BRG  
DIM : O.D 170 × I.D 100 × B 61  
MAT'L : WJ1 / STKM



ITEM : OFFSET BEARING-R  
DIM : O.D 156 × I.D 44.45 × 44.9 (mm)  
MAT'L : HOYTS172 / S20C



ITEM : TILTING PAD JOURNAL BRG' ASSY  
DIM : O.D 86 × I.D 45 × B 52.4  
MAT'L : HOYTS172 / SCM445H



ITEM : OFFSET BEARING-L  
DIM : O.D 106 × I.D 44 × B 51.5  
MAT'L : WJ1 / SM20C



ITEM : THRUST METAL  
DIM : O.D 280 × I.D 181 × B 7  
MAT'L : WJ2 / S10C

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ITEM : COMPRESSOR TILTING PAD BRG'

DIM' : O.D 375 × I.D 90 × 68 (mm)

MAT'L : HOYT11R / LBC3 / S20C

TYPE : φ 90 HALF

ITEM : COMPRESSOR TILTING PAD SLEEVE BRG'

DIM' : O.D 177 × I.D 100 × 67 (mm)

MAT'L : HOYT11R / S20C

TYPE : 600HP, 900HP, 1250HP



ITEM : COMPRESSOR TILTING PAD BRG'

DIM' : O.D 333.5 × I.D 90 × 66 (mm)

MAT'L : HOYT11R / LBC3 / S20C

TYPE : φ 90 RING

ITEM : COMPRESSOR TILTING PAD PINION BRG'

DIM' : O.D 120 × I.D 50 × 30 (mm)

MAT'L : HOYTS172 / SCM440

TYPE : 600HP, 900HP, 1250HP



ITEM : JOURNAL BEARING

DIM' : O.D 173.98 × I.D 76.35 × 115 (mm)

MAT'L : HOYTS172 / S20C

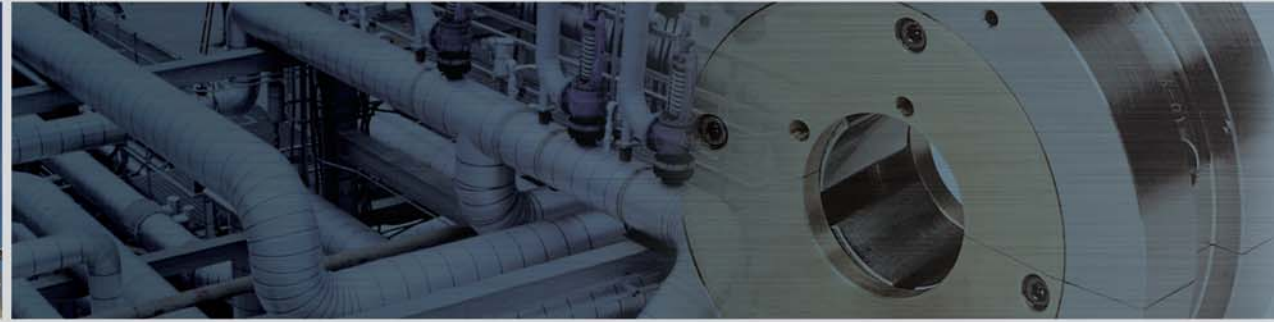




# Industry

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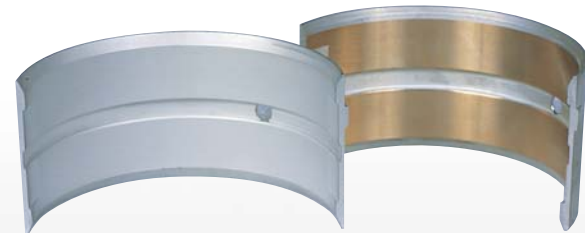
## CHEMICAL PLANT



## CEMENT PLANT

### Challenge for World Wide!

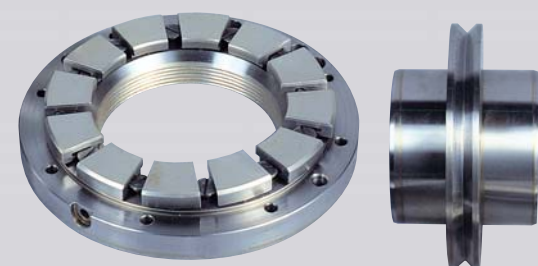
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ITEM : CRANK PIN BRG 'SHELL  
DIM' : O.D220 × I.D210  
MAT'L : KZ3

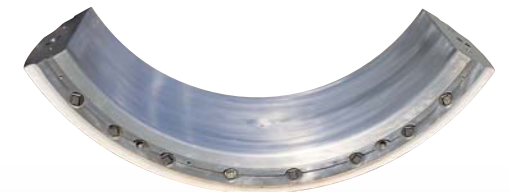


ITEM : MAIN BRG 'FOR COMPRESSOR  
DIM' : O.D140 × I.D110 × B90  
MAT'L : HOYT S172 / SS400

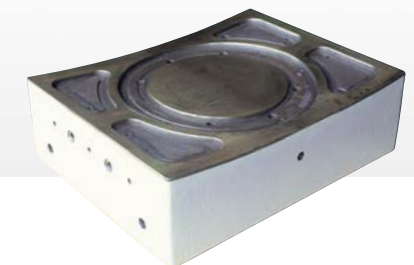


ITEM : THRUST PAD BRG 'ASS' Y  
DIM' : O.D181 × I.D85 × B88  
MAT'L : HOYT S172 / S45C, S20C

ITEM : BALL MILL BRG '  
DIM' : O.D1733 × I.D1371 × B557  
MAT'L : WJ2 / SC410



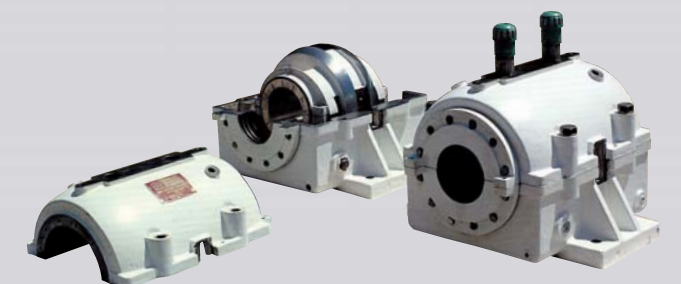
ITEM : SLIDE SHOE BRG' (AI-CU ALLOY LINING)  
DIM' : R2750 × T257  
MAT'L : AMPCO-TRADE10



ITEM : ROLLER BRG 'BUSH  
DIM' : O.D670 × I.D502 × B625  
MAT'L : LBC3



ITEM : KILN INTER-SHAFT BRG '  
DIM' : O.D280 × H550 × B170  
MAT'L : WJ2 / FC25



# Industry

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## STEEL PLANT



### Challenge for World Wide!

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ITEM : STEADY REST BRG'  
DIM' : O.D1700 × I.D1364 × B180  
MAT'L : HOYT S172 / SS400



ITEM : PEDESTAL BRG'  
DIM' : O.D310 × I.D203 × B203  
MAT'L : HOYT S172 / FCD45



ITEM : SLEEVE BRG'  
DIM' : O.D1065 × I.D961 × B843  
MAT'L : SCM445



ITEM : SLEEVE BRG'  
DIM' : O.D985 × I.D893.87 × 772 (mm)  
MAT'L : SCM445



ITEM : SHELL BRG'  
DIM' : O.D1059 × I.D985.8 × 736 (mm)  
MAT'L : WJ2 / SS400



ITEM : SHELL BRG'  
DIM' : O.D895 × I.D838 × 711 (mm)  
MAT'L : WJ2 / SS400



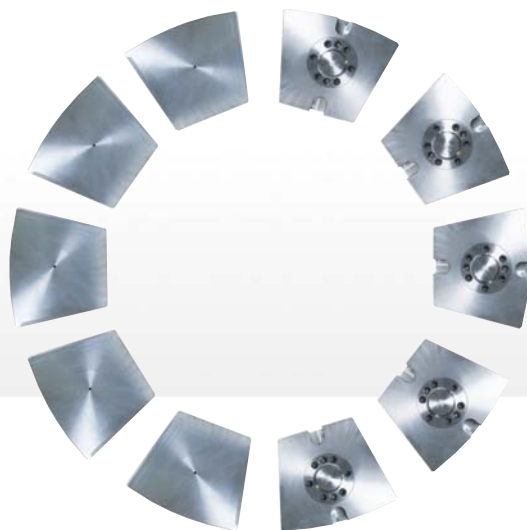
# Reduction Gear

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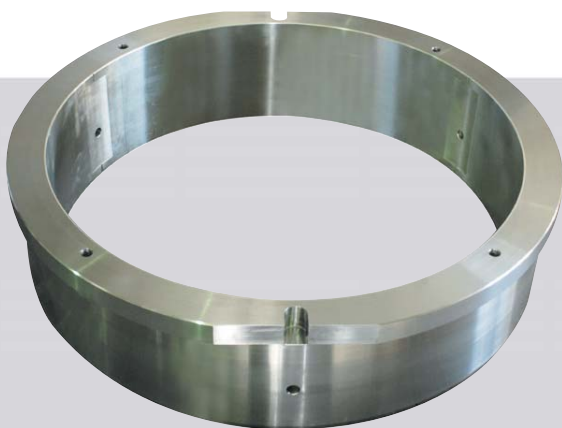
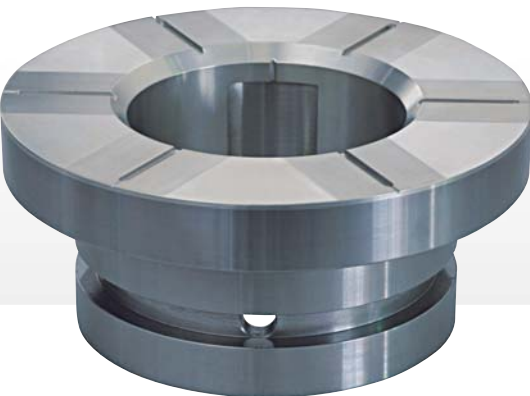
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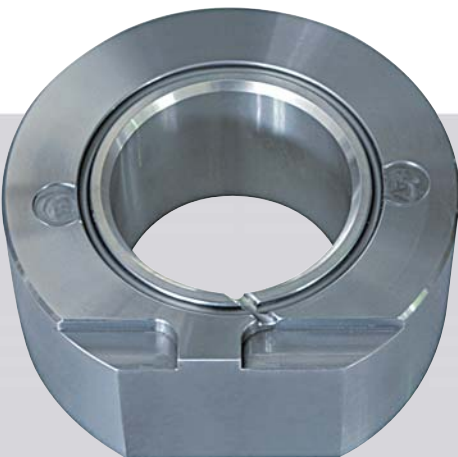
ITEM : THRUST PAD  
DIM : W584 × H460 × B135(mm)  
MAT'L : VJ2 / SS400

ITEM : BEARING-SHAFT #4  
DIM : O.D190 × I.D100 × 85(mm)  
MAT'L : B21A14 / S25C



ITEM : SLIDE BEARING  
DIM : O.D1120 × I.D980 × 265(mm)  
MAT'L : VJ2 / SS400

ITEM : BEARING-PUMP GEAR  
DIM : O.D144.5 × I.D76.2 × 65(mm)  
MAT'L : B21A14 / S25C



# Reduction Gear

DYM makes the future with the challenge to a new world and unswerving R&D efforts. You shall be assured of our efforts for the world-highest precision and quality.

## NAVY SHIP APPLICATION



### Challenge for World Wide!

DYM new vision consist of development of technique and research. The Best Quality and Service They are promise with DYM



ITEM : THRUST PAD ASS'Y  
DIM' : O.D1080 × I.D644 × T68  
MAT'L : TEGO V738 / CK15



ITEM : RADIAL BRG'  
DIM' : O.D436 × I.D314 × B203  
MAT'L : TEGO V738 / CK15



ITEM : STEADY BRG'  
DIM' : I.D450 × H990 × V1098  
MAT'L : TEGO V738 / CK15

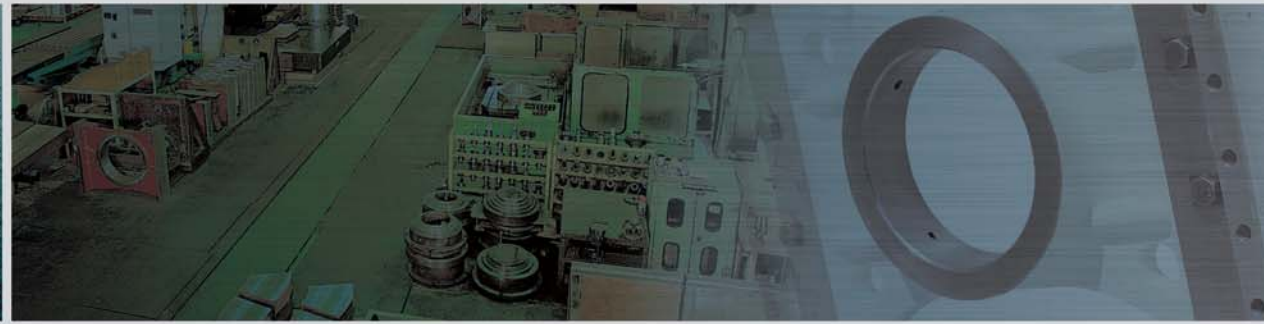


ITEM : RADIAL AXIAL BRG'  
DIM' : O.D470 × I.D330 × B230  
MAT'L : TEGO V738 / CK15



# Marine Engine

DYM makes the future with the challenge to a new world and unswerving R&D efforts. You shall be assured of our efforts for the world-highest precision and quality.



## Challenge for World Wide!

DYM new vision consist of development of technique and research. The Best Quality and Service They are promise with DYM



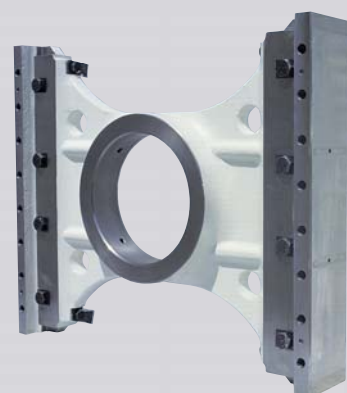
ITEM : MAIN BRG ' SHELL & COVER ASS' Y (RT96C)  
DIM ' : O.D1080 × I.D990 × B425  
MAT ' L : HOYT 11R / SS400 / GS38

ITEM : CRANK PIN BRG ' SHELL (RT72)  
DIM ' : O.D816 × I.D780.56 × 305(mm)  
MAT ' L : HOYT11R / SS400



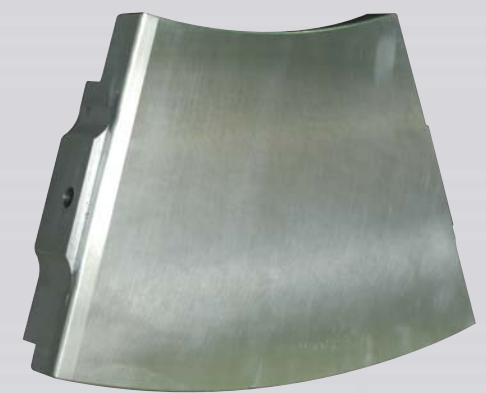
ITEM : BOTTOM END BRG ' (RN68)  
DIM ' : W745 × H630 × B240  
MAT ' L : HOYT 11R / SS400

ITEM : BRG ' SHELL (RT84C/84M)  
DIM ' : O.D826 × I.D790 × 735(mm)  
MAT ' L : HOYT11R / SS400



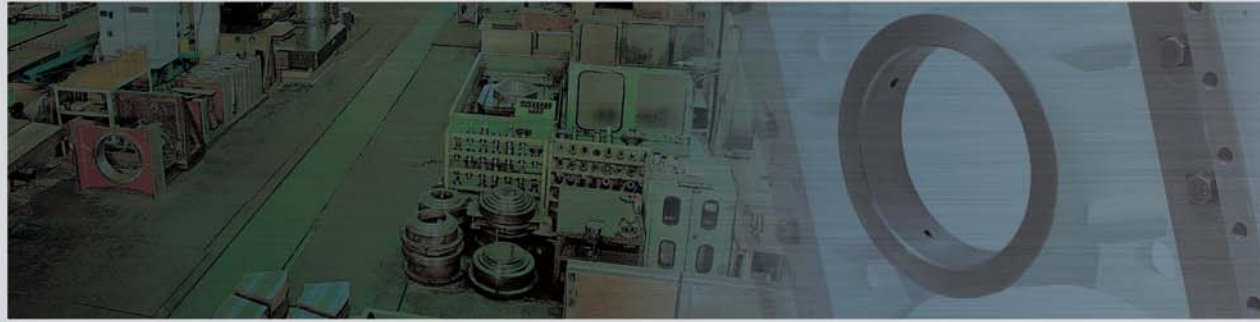
ITEM : GUIDE SHOE - MIDDLE ASS' Y (RT96C)  
DIM ' : W820 × H690 × B135.5  
MAT ' L : HOYT 11R / SC410 (SHOE), FC250 (MIDDLE PART)

ITEM : THRUST PAD (RT58)  
DIM ' : O.D1320 × H800 × B66.5  
MAT ' L : HOYT11R / SS400



# Marine Engine

DYM makes the future with the challenge to a new world and unswerving R&D efforts. You shall be assured of our efforts for the world-highest precision and quality.



## Challenge for World Wide!

DYM new vision consist of development of technique and research. The Best Quality and Service They are promise with DYM



ITEM : CROSSHEAD BRG ' CAP (S60MC-C)

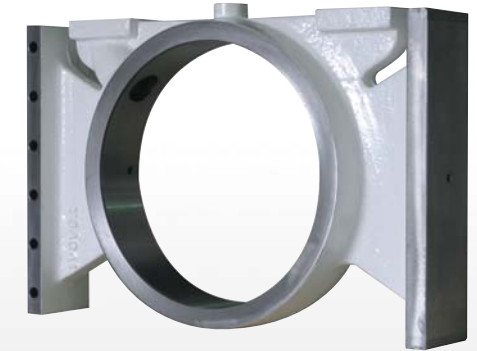
DIM ' :  $\phi 0.822 \times 1.0522 \times B508$

MAT ' L : HM07 / FCD40

ITEM : GUIDE SHOE (35ME-B)

DIM ' :  $W584 \times H380 \times B320$

MAT ' L : HM07 / FCD600(KP)



ITEM : MAIN BRG (VERTICAL PIN TYPE) (S70MC)

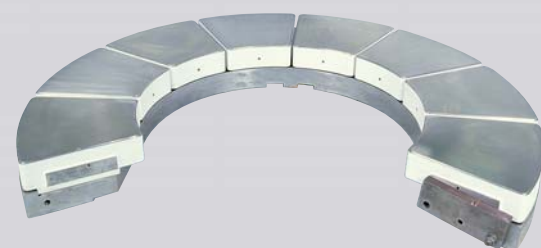
DIM ' :  $\phi 0.878 \times 1.0802 \times B285$

MAT ' L : HM07 / SS400

ITEM : GUIDE DISC (80MC-C)

DIM ' :  $\phi 0.410 \times 1.0350 \times 12(\text{mm})$

MAT ' L : HM07 / SS400



ITEM : SEGMENT ASS' Y (S80MC)

DIM ' :  $\phi 0.1900 \times 1.01390 \times T140$

MAT ' L : HM07 / FC300

ITEM : GUIDE DISC (50MC)

DIM ' :  $\phi 0.398 \times 1.0342 \times 12(\text{mm})$

MAT ' L : BC6





# LNGC Turbine

DYM makes the future with the challenge to a new world and unswerving R&D efforts. You shall be assured of our efforts for the world-highest precision and quality.

# Turbo Charger

## Challenge for World Wide!

DYM new vision consist of development of technique and research. The Best Quality and Service They are promise with DYM



ITEM : 1ST PINION FORE & AFT BRG

DIM : O.D190 × I.D140 × B90

MAT'L: HOYTS172/SS400

ITEM : THRUST BEARING

DIM : O.D 120 × I.D55 × 12.5 (mm)

MAT'L: HOYTS172(WJ2)/S20C



ITEM : R/G HP & LP 1ST WHEEL FORE & AFT BRG.

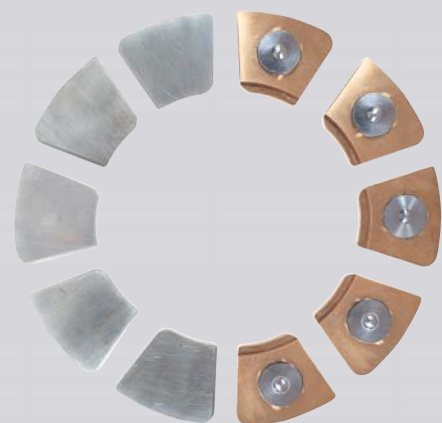
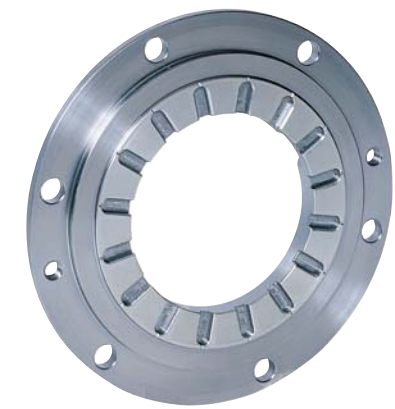
DIM : O.D 480 × I.D 410.42 × 200 (mm)

MAT'L: HOYTS172/SS400

ITEM : THRUST BEARING

DIM : O.D 172 × I.D86 × 12.4 (mm)

MAT'L: HOYTS172(WJ2)/S20C



ITEM : HP/LP TURBINE THRUST PAD

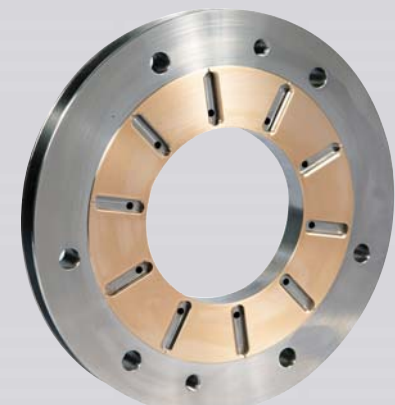
DIM : O.D 259 × I.D 120 × 29.8 (mm)

MAT'L: HOYTS172/BC3

ITEM : THRUST BEARING

DIM : O.D335 × I.D 135 × 29.5 (mm)

MAT'L: HOYTS172(WJ2)/S25C



# Certificate

The company's first customers will be safe  
We will go anywhere, anytime as required by the customers, maintaining the finest quality and world-leading technical prowess.

**Supplier Qualification Form**

Company Name: **DYM CO., LTD.**  
 Representative: **Mr. Kim**  
 Address: **100-1, Daejeon, Korea**  
 Phone: **042-250-1000**  
 Fax: **042-250-1001**  
 E-mail: **dym@dy.com**  
 Website: **www.dy.com**  
 Business Type: **Manufacturer**  
 Product: **Steam Turbine Bearings**  
 Application: **Power Plant**  
 Date of Issue: **2009-08-31**

Approved by: **Siemens**  
 Date: **2009-08-31**

**Supplier Certificate**

We hereby certify that

**DYM CO., LTD**  
South Korea

is listed as an approved supplier for

**Siemens Energy Sector,  
Mülheim Factory**

for steam turbine bearings  
(valid until 2009-08-31)

2009-08-31

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for steam turbine bearings  
(valid until 2009-08-31)

2009-08-31

**HITACHI**  
Power & Industrial Systems  
**CERTIFICATE OF APPROVAL**

This is to certify that the Quality Management System of:

**DYM CO., LTD.**

100-1, Daejeon, Korea

has been approved by Hitachi, Ltd. (Hitachi Administrative Division)  
(The Quality Management System is applicable to:)

**MANUFACTURE OF STEAM TURBINE BEARINGS**

Approved by: **Hitachi**  
Date: **2009-08-31**

**MAN MAN Diesel A/S**

**Supplier Approval**

This is to certify that

**DYM CO., LTD.**  
100-1, Daejeon, Korea

is approved to supply

**MAN MAN Diesel A/S**

Approved by: **MAN MAN Diesel A/S**  
Date: **2009-08-31**

**WARTSILA**

**SUPPLIER APPROVAL**

This is to certify that

**DYM CO., LTD.**  
100-1, Daejeon, Korea

is approved to supply

**WARTSILA**

Approved by: **Wartsila**  
Date: **2009-08-31**

**DET NORSKE VERITAS**  
**MANAGEMENT SYSTEM CERTIFICATE**

This is to certify that

**DYM CO., LTD.**  
100-1, Daejeon, Korea

has been found to conform to the Management System Standard

**ISO 9001:2008**

The Certificate is valid for the following product or service category:

**MANUFACTURE OF STEAM TURBINE BEARINGS FOR INDUSTRIAL MACHINES AND COMBUSTION MARINE ENGINES**

Approved by: **DNV**  
Date: **2009-08-31**

**DET NORSKE VERITAS**  
**MANAGEMENT SYSTEM CERTIFICATE**

This is to certify that

**DYM CO., LTD.**  
100-1, Daejeon, Korea

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**ISO 14001:2004, AS Q ISO 14001:2004**

The Certificate is valid for the following product or service category:

**MANUFACTURE OF STEAM TURBINE BEARINGS FOR INDUSTRIAL MACHINES AND COMBUSTION MARINE ENGINES**

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Date: **2009-08-31**

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The World Green Energy Supporter