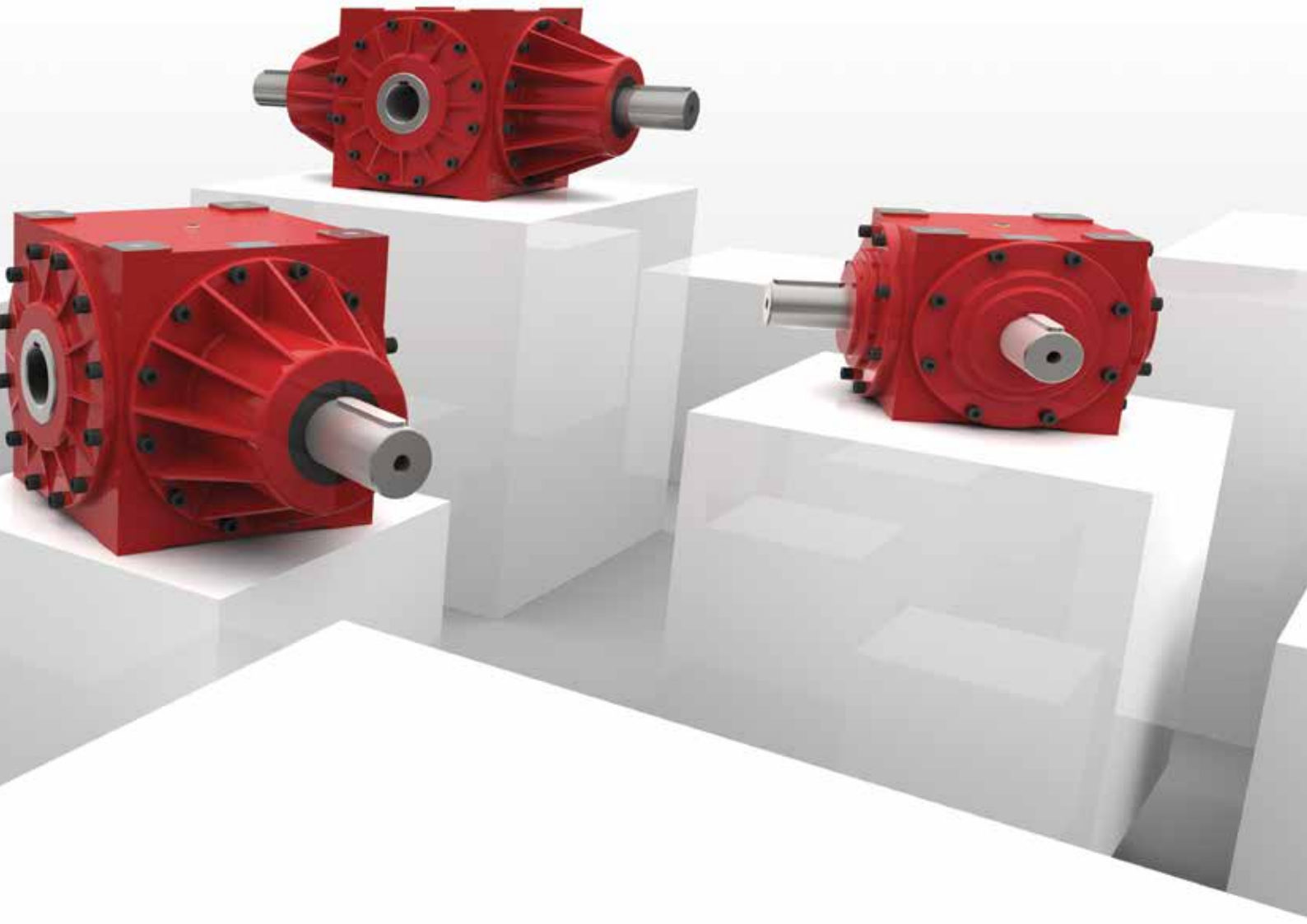
POWER JACKS



Range-N

Neeter Drive
Spiral Bevel Gearboxes

Power Jacks have taken time, engineering excellence and the best people to produce the ultra compact Neeter Drive gearbox.

Neeter Drive
Spiral Bevel Gearboxes

Our expertise has been built on a history of engineering craftsmanship and design dating back to 1903. The facility in Scotland is the UK's largest screw jack and spiral bevel gearbox manufacturing facility, that uses the latest engineering technologies to deliver quality products (BS EN ISO 9001:2008) that offer reliability, performance and economy.

Power Jacks is synonymous with screw jack technology and its development. We have been involved with Screw Jacks since the product was invented in the late 1930's and this gives us unparalleled experience in the design and manufacture of both standard and special designs.

In 2004 Power Jacks acquired Neeter Drive the UK's largest spiral bevel gearbox manufacturer with over 40 years of knowledge and experience in the supply of both standard and special designs. Neeter Drive today is a Power Jacks technology that is focused on delivering the best bevel gearbox solution for the customer.

Complimenting the screw jacks and bevel gearboxes the Power Jacks portfolio also includes the design and manufacture of electric linear actuators and planetary roller screws. This enables us to offer our customers a complete linear motion and power transmission system and solution.

We know our customers demand our engineering expertise to help find a solution for their applications. We take pride in designing and delivering the best solution. This is what defines the Power Jacks range.

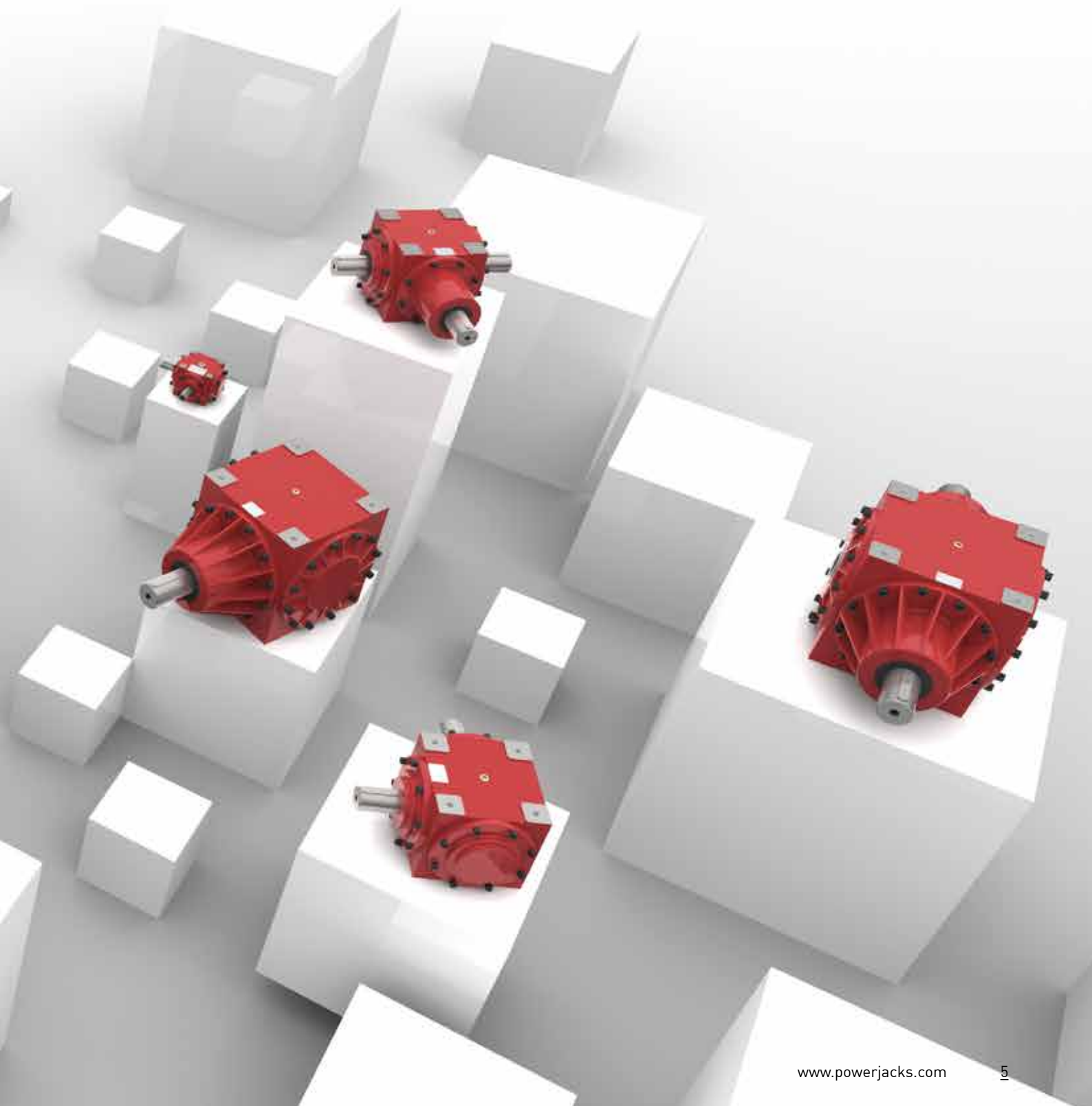
Range-N Ultra Compact

The Range

Accessories/Options

POWER JACKS

Neeter Drive
Spiral Bevel Gearboxes



Introducing the Range-N Neeter Drive bevel gearbox range from Power Jacks, an ultra compact and versatile design.

Created by a team of experienced design engineers, the focus was to provide our customers with a ultra compact bevel gearbox that offers versatility in design. In addition to this, we wanted to design a bevel gearbox that had the perfect combination of excellent performance, a long lasting service life, durability and the flexibility to be engineered for the most demanding applications.

Perfect for industrial applications or the extreme such as subsea, defence or nuclear.

Standard Gearbox

- 6 Gearbox Sizes
  35, 37, 38, 39, 40, 42 Series
- 16 Gearbox Configurations
- Gear Ratios:
  1:1, 1.5:1, 2:1, 3:1 and 4:1*
- Special gear ratios available on request
  e.g. 1.25:1
- *No 4:1 on Series-35
- Power Ratings: 0.1 - 226 kW
- Torque Ratings: 15 Nm - 7000Nm

Gearbox Housing

A rugged Ultra Compact design made from a highly durable SG Iron.
This provides a strong housing that firmly and accurately holds the gear set in a reservoir of quality lubricant suited to the most industrial demands.

Corrosion Protection

To suit all economic needs.

- Standard Industrial Paint Finish
- Arduous Environment Paint Finish
- Customer Specified Paint
- Plated Finish
- Stainless Steel

Reliable Spiral Bevel Gear

With a proven design already used in millions of gearboxes, the Precision Spiral Bevel Gears with accurate gear mesh delivers high torque with smooth and quiet transmission.

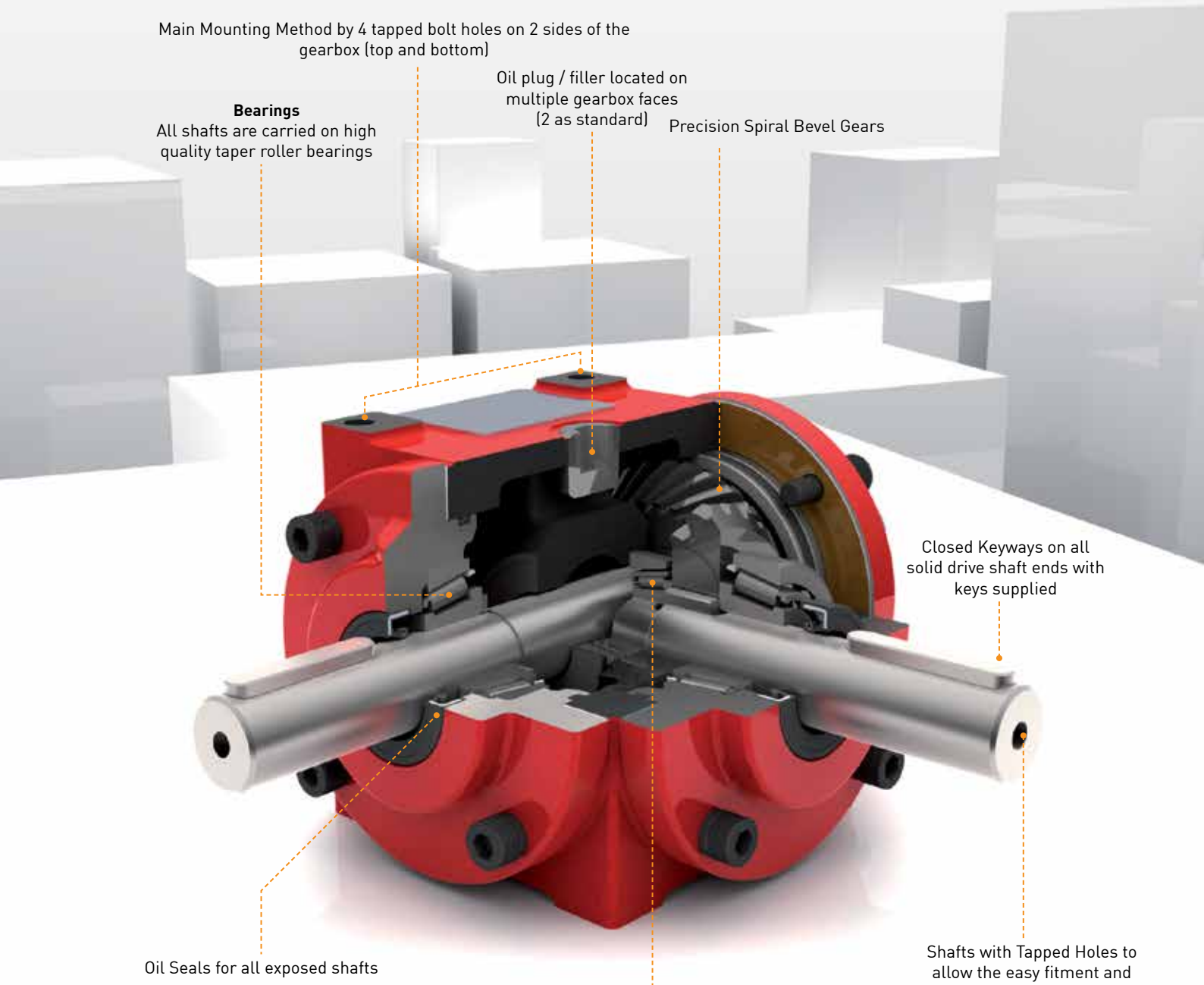
Superior Gear and Shaft Support

For gear ratios 1:1 and 1.5:1 where each gear has a bearing support on both sides. This gives optimum gear support and minimises bearing hub sizes for non-through shaft configurations.

Shaft Configurations

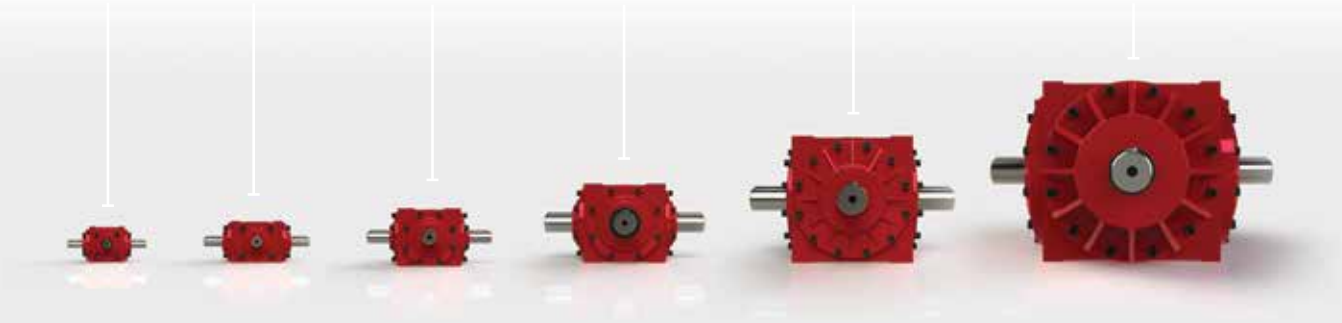
- 2, 3 or 4-way
- Solid or hollow shaft
- Special configurations available
- Motor Adapter to bolt an IEC motor directly to the gearbox input
- Service life of 10,000 hours for all gearbox sizes
- Input Speed up to 3000 rpm maximum
- Breather / vents available for high speed designs

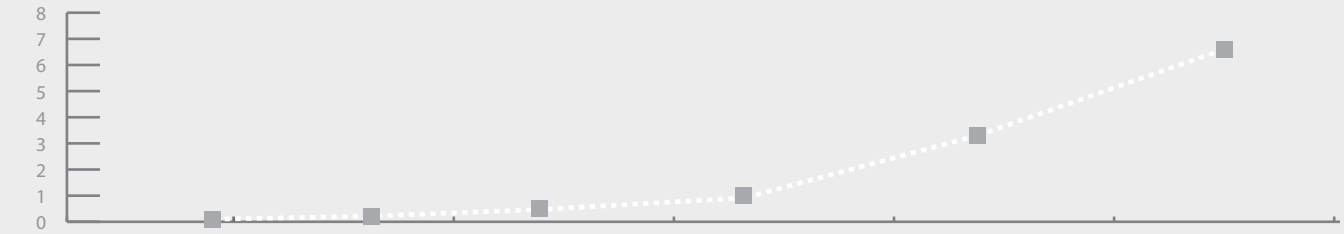
Neeter Drive
Spiral Bevel Gearboxes



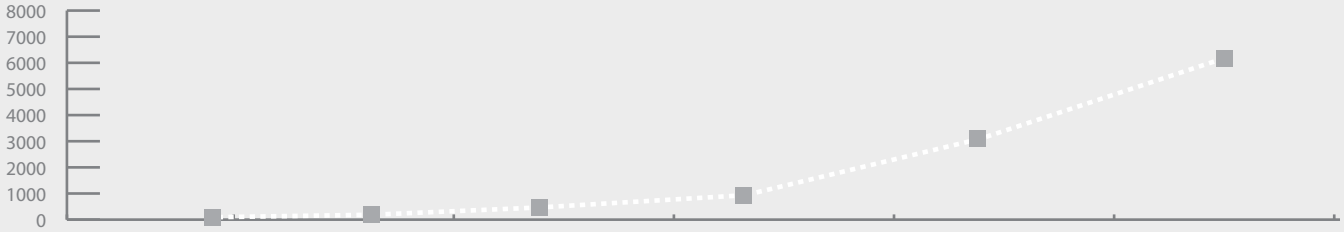
Basic Range Overview

Series	35	37	38	39	40	42





Power (kW)



Output Torque M2 (Nm)

Shaft Diameter (mm)

Based on Ratio 1:1, 3way solid shaft, Gear Unit Size

Product Code

1	2	3	4	5	6	7	8	9-15
	38		4	4	2	M	5	XXX

1 Motor Mounting Flanges

- No Motor Flange (leave blank)

A-L Motor Flange

(Refer to page 56 for motor identification letter)

2-3 Gear Unit Type

35, 37, 38, 39, 40, 42

4 Configuration

0 = 3 Way Hollow Shaft
1 = In Line 2 Way
2 = 2 Way
3 = 3 Way
4 = 3 Way Reverse
5 = 2 Way Reverse
6 = 3 Way Reversible * †
7 = 4 Way
8 = 2 Way Disengageable *
9 = 5 Way (Special)
A = 3 Way Disengageable * †
C = 2 Way Reversible *
H = 2 Way Reverse Disengageable *
J = 4 Way Hollow Shaft
K = 2 Way Hollow Shaft
L = 2 Way Reverse Hollow Shaft

5 Gear Type

3 = Straight Bevel *
4 = Spiral Bevel

6 Exact Gear Ratios

1 = 1:1 Ratio Gears
1.5 = 1.5:1 Ratio Gears
2 = 2:1 Ratio Gears
3 = 3:1 Ratio Gears
4 = 4:1 Ratio Gears * *

7 Version

M = Metric Shaft Version (mm)
E = Imperial Shaft Version (in)*

8 Issue No.

Internal Numbering System Only

9-15 Special Features

1 = A unique suffix is allocated to define special features. (3 to 7 character code).

Each Neeter Drive Gear Unit is allocated a Part Number which defines the unit specification. For identification purposes this number is stamped on each unit.

The above chart outlines the Part Numbering System. It should be noted that as Neeter Drive's range of units has developed over the years, certain features are not applicable to the current range.

Notes:

* Non Standard feature
** Not available on Series 35
† Reverse/Reversible Configuration

The reverse configuration is the way in which the output shaft rotates
The Reversible unit has a hand wheel on the unit so the output shaft direction of rotation can be changed when stationary.

How to Select a Neeter Drive Unit

When selecting a gearbox, there are a number of factors which can influence the final size of unit selected. The information contained in the selections gearbox characteristics and Technical data provide details of these factors for use in the selection process.

The following Selection Procedure provides a step-by-step guide to gearbox selection for those not fully familiar with the procedures. An example has been used in the selection procedure to assist in following through the procedure.

Specified information	Example Information
1. Gearbox Input Speed (rpm)	1000
2. Gearbox Output Speed (rpm)	500
3. Gearbox Configuration (page17)	2 Way (2)
4. Required Output Torque (Nm)	150
5. Operating Hours per Day (HRS)	10
6. Input Power Source (page 14)	Electric Motor
7. Gearbox Application (page 14)	Stacking Machine
8. Number of Starts per Hour (page 14)	8
9. Transmission Methods (page 14)	Clutch
10. Duty Cycle per Hour (% Running time)	45/60 = 75%
11. Operating Ambient Temperature °C (page 15)	20

Selection of Design Factors	Example Design Factors
Step 1 - Shock Load Factor (f_1) Using the Specified Information in Points 5, 6 and 7 above, select the Shock Load Factor from the Page 14.	1.25
Step 2 - Starting Frequency Factor (f_2) Using the Specified Information in Point 8 above, select the Starting Frequency Factor from the page 14.	1.00
Step 3 - Transmission Load Factor (f_3) Using the Specified Information in Point 9 above, select the Transmission Load Factor from the Page 14.	1.00
Step 4 - Thermal Limit - Duty Cycle - Factor (f_4) Using the Specified Information in Point 10 above, select the Thermal Limit - Duty Cycle - Factor from the Page 14.	1.25
Step 5 - Thermal Limit- Ambient Temperature - Factor (f_5) Using the Specified Information in Point 11 above, select the Thermal Limit - Ambient Temperature -Factor from the Page 15.	1.00

Example Unit

A gearbox is required for an Input Speed of 1000 rpm, an Output Speed of 500 rpm, an Output Torque of 150Nm and one Output Shaft. The Drive is by electric motor through a clutch mechanism and the gearbox is on the main drive of a heavy duty stacking machine. The machine operates for 10 hours per day, starts 8 times per hour and operates for 45 minutes in every hour, the other 15 minutes being taken up in loading the machine. The ambient temperature of the premises is 20°C.

Calculated data	Example Data
Step 6 - Calculate the Gear Ratio Input Speed ÷ Output Speed Note: If the gear ratio does not correspond to one of the STANDARD ratios contained in this technical manual, one of the speeds, normally the output speed, must be changed to bring the ratio to standard. Non-standard ratios can be supplied, if required, but such special selections must be referred to Power Jacks.	1000/500 = 2 Therefore 2:1 Reduction
Step 7 - Calculate the Corrected Output Torque Required Output Torque x f_1 x f_2 x f_3 Note: Where there is more than one output shaft, the Required Output Torque for the gearbox is the summation of the individual Output Torques from the output shafts.	150 x 1.25 x 1.00 x 1.00 x = 187.5 Nm
Step 8 - Calculate the Corrected Output Power Required Output Torque x Output Speed / 9550	(187.5 x 500) / 9550 = 9.82 kW
Step 9 - Calculate the Required Input Power = Output Power / Efficiency (Gearbox efficiency is between 95% and 98% after initial running in).	9.82 / 0.98 = 10.02 kW

Gearbox Selection	Example Gearbox Selection
Step 10 - From the GEARBOX TORQUE x POWER RATING TABLE (page 13), select the gearbox with the closest adequate rated power.	From the Selection Table on page 13, for Input Power 10.02 kW, gear ratio 2:1 and Input Speed 1000 rpm, select Series 39.
Step 11 - When selecting a gearbox, the Thermal Capacity of the gearbox chosen must be considered. For the Limiting Thermal Capacity (page 15), expressed as a Power Rating. For the selected gearbox, calculate the Thermal Capacity = Limiting Thermal Capacity x f_4 x f_5. The Calculated Input Power must not exceed this Calculated Thermal Capacity. A larger gearbox must be selected if the Calculated Input Power is higher and a check run on the other parameters.	From the table in page 15, Limiting Thermal Capacity for Series 39 is 49kW. Calculate the gearbox, Thermal Capacity = 49 x 1.25 x 1.00 = 61.25 kW The Input Power is within this limit. Selected gearbox is OK.
Step 12 - As a final check on the capacity of the chosen gearbox, the effect of the connected drive systems must be considered. The section headed Permissible Shaft Loading (page 16) describes the calculation to be undertaken where the transmission mechanism can give rise to radial and/or axial forces on the gear shafts. This occurs, particularly, where chain and belt drives are employed.	Power transmission is by clutch. From the Transmission Load Factor table (page 14 (f_3)), there are no additional loads to be considered and the selection of gearbox is acceptable.

Performance

Series		35	37	38	39	40	42
Torque (Nm)	Nominal#1	46	115	328	481	1353	6195
	Max Running#2	93	187	505	935	3088	7000
	Max Start-Up	140	281	758	1403	4632	10500
Input Speed	Max (rpm)	3000	3000	3000	3000	3000	3000
Thermal Limit	Power (kW)	3.3	9	20.5	49	90	190
Backlash	arcmin	9 to 16	9 to 16	9 to 16	7 to 10	7 to 10	7 to 10
Efficiency (%)		95% - 98%					
Service Life	(hours)	>10000	>10000	>10000	>10000	>10000	>10000
Housing Material		SG Iron	SG Iron	SG Iron	SG Iron	SG Iron	SG Iron
Oil Quantity	Litres	0.14	0.29	0.75	1.71	3.27	7
	Pints	0.24	0.5	1.32	3	5.75	12.3
Weight (kg)	2 Way - 1:1 & 1.5:1	4.5	10.5	20	38	112	190
	2 Way - 2:1 +	6.5	12	23	45	126.5	215
	3 Way - 1:1 & 1.5:1	4.75	11	20.5	46.5	116	197
	3 Way - 2:1 +	6.75	12.5	23.5	53	131	223

The above tables and other torque & power tables are on the basis of the following nominal values:

1 Shock-free operation
2 Operating time per day = 8 hours
3 Maximum 20 starts per hour (torque x 1.5 permissible)
4 Duty cycle 100%
5 When selecting gearboxes take the thermal capacity into consideration
6 Ambient temperature for operation -10° to +50°C permissible

Notes:

#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm

Lubrication

The oil levels stated in the table above assumes that the gearbox is positioned with all shafts in a horizontal plane. To get the correct lubrication recommendation please supply shaft orientation and operating speeds required as part of the application details provided to Power Jacks with an enquiry.

! All Neeter Drive Range-N gearboxes are shipped without lubrication, except for grease filled units.

Input Speeds: 250 rpm < n < 1500 rpm

For input speeds up to 1500 rpm the oil level in the gearbox should be maintained just below the centre line of the shafts.

Input Speeds: n > 1500 rpm

For input speeds above 1500 rpm a change in oil level may be required in combination with a breather (vent). Consult Power Jacks for specific application advice.

Input Speeds: 250 rpm < n

For input speeds below 250 rpm then a grease filled gearbox is recommended.

Oil Specification

Ambient Temperature	Gear Oil
Below +5C	ISO 150
+5C to +40C	ISO 220
Above +40C	ISO 320

Grease Specification

Use an EP1 rated grease.

Torque and Power Rating

Gear Unit Size		Gear Ratio	Input Speeds 10	50	100	250	500	750	1000	1500	2000	2500	3000
Series 35	Power (kW)	1:1	0.1	0.4	0.8	1.7	3.1	4.3	5.4	7.4	8.9	10.3	11.6
		1.5:1	0.04	0.2	0.4	0.7	1.4	2.1	2.6	3.7	4.7	5.8	6.8
		2:1	0.03	0.12	0.2	0.5	0.9	1.2	1.6	2.2	2.9	3.6	4.3
		3:1	0.01	0.03	0.06	0.15	0.31	0.5	0.6	0.9	1.2	1.4	1.7
	Output Torque M2 (Nm)	1:1	93	74	74	63	58	53	50	46	41	38	36
		1.5:1	56	56	56	39	39	39	36	34	32	32	31
		2:1	56	44	37	37	33	29	29	27	27	26	26
		3:1	28	16	16	16	17	18	16	16	16	15	15
Series 37	Power (kW)	1:1	0.2	1	2	4.3	7.7	10.8	13.6	18.5	22.6	26.3	30.6
		1.5:1	0.1	0.5	0.8	1.9	3.5	5	6.4	9	11.5	14.3	17
		2:1	0.1	0.3	0.6	1.3	2.5	3.5	4.5	6.4	8.1	10.1	12
		3:1	0.03	0.11	0.2	0.5	0.8	1.2	1.5	2.1	2.8	3.5	4.2
		4:1	0.01	0.06	0.1	0.2	0.4	0.6	0.8	1.2	1.5	1.9	2.3
	Output Torque M2 (Nm)	1:1	187	187	187	160	144	134	127	115	105	98	95
		1.5:1	140	140	112	106	98	93	89	84	80	80	79
		2:1	187	112	112	97	93	87	84	79	75	75	74
		3:1	84	61	56	56	44	44	42	39	39	39	39
		4:1	37	44	37	29	29	29	29	29	28	28	28
Series 38	Power (kW)	1:1	0.54	2.7	5.3	11.7	21.2	29.9	38	52.6	65.1	76.6	-
		1.5:1	0.2	0.9	1.6	3.4	6.1	8.7	11.1	15.5	19.4	23.6	27.6
		2:1	0.27	0.6	1.2	2.6	4.8	6.9	9	12.8	16.6	20.8	25
		3:1	0.1	0.3	0.5	1.2	2.2	3.1	4	5.7	7.5	9.4	11.1
		4:1	0.03	0.13	0.23	0.7	0.9	1.3	1.7	2.4	3.2	4	4.8
	Output Torque M2 (Nm)	1:1	505	505	495	437	396	373	355	328	304	286	-
		1.5:1	280	252	224	190	171	162	155	145	136	132	129
		2:1	505	224	224	194	179	172	168	159	155	155	155
		3:1	280	168	140	134	123	116	112	106	105	105	103
		4:1	112	97	86	104	67	64	63	59	59	59	59
Series 39	Power (kW)	1:1	1	5	9.8	22.2	38.6	52	62.9	77.2	-	-	-
		1.5:1	0.4	1.8	3.6	9	16.3	23.2	29.7	41.8	52.5	63.6	-
		2:1	0.5	2	3.6	7.9	14.5	20.7	26.6	38	49.5	60.7	71.4
		3:1	0.2	0.8	1.4	3.2	5.9	8.4	10.9	15.6	20.5	25.1	29.4
		4:1	0.1	0.4	0.7	1.6	2.9	4.2	5.4	7.7	10.2	12.5	14.7
	Output Torque M2 (Nm)	1:1	935	935	917	831	722	648	588	481	-	-	-
		1.5:1	505	505	505	505	457	434	416	391	368	357	-
		2:1	935	748	673	591	542	516	497	474	463	454	445
		3:1	561	449	393	359	331	314	306	291	287	281	275
		4:1	374	299	262	239	217	209	202	192	190	187	183
Series 40	Power (kW)	1:1	3.3	16.2	31.8	74.3	126	166	194	-	-	-	-
		1.5:1	1.9	8.9	16.3	36.4	65.6	90.8	112	145	-	-	-
		2:1	1.5	6.8	12.5	28	52	74.8	96.7	139	181	221.5	-
		3:1	0.7	2.6	4.5	10.3	19.2	27.8	36.1	52	68.3	83.6	98.3
		4:1	0.4	1.5	2.8	7	11.7	16.9	21.9	31.6	42.1	51.5	60.5
	Output Torque M2 (N m)	1:1	3088	3032	2975	2781	2358	2071	1815	-	-	-	-
		1.5:1	2667	2498	2288	2043	1841	1699	1572	1356	-	-	-
		2:1	2807	2545	2339	2096	1946	1866	1809	1734	1693	1658	-
		3:1	1965	1459	1263	1156	1078	1040	1013	973	958	938	919
		4:1	1497	1122	1048	1048	875	843	819	788	787	771	754
Series 42	Power (kW)	1:1	7.5	37.4	74.8	187	374	558	-	-	-	-	-
		1.5:1	3.5	17.3	34.5	86.1	172	245	310	-	-	-	-
		2:1	3.7	17.6	32.6	73.8	138	198	255	361	-	-	-
		3:1	0.72	3.6	7.2	18	37.1	53.4	68.3	98.4	128.5	157.3	-
		4:1	1	3.7	6.7	14.9	28	40.6	52.8	76.3	97.7	119.7	140.8
	Output Torque M2 (N m)	1:1	7000	7000	7000	7000	7000	6962	-	-	-	-	-
		1.5:1	4913	4856	4842	4834	4828	4585	4351	-	-	-	-
		2:1	6925	6588	6101	5525	5165	4941	4772	4504	-	-	-
		3:1	2021	2021	2021	2021	2083	1998	1917	1841	1803	1766	-
		4:1	3743	2770	2508	2231	2096	2026	1976	1904	1828	1972	1756

Check Thermal Limit - Power

Check Thermal Limit - Torque

Power Ratings (kW) @ given INPUT speeds (rpm)
Output Torque M2 (Nm) @ given INPUT speeds (rpm)

Shock Load Factor (f_1)

Shock Load Category		
I	II	III
Conveyor Belts	Heavy Duty Lifts	Punching Machine
Generators	Hoists	Shears
Ventilators	Mixers	Forging Presses
Light Textile Machinery	Cranes	Vibrators
Rotating Machine Tools	Heavy Duty Textile Machinery	Rolling Mills
	Woodworking Machinery	Extremely Heavy Lifts
	Paper Machinery	Heavy Duty Roller Conveyors

Input Power Source									
Shock Load Category	Electric Motor			Piston Machine Hydro Motor			Single Cylinder Piston Machine		
	Operating Time per Day (hrs)			Operating Time per Day (hrs)			Operating Time per Day (hrs)		
	≤2	10	>10	≤2	10	>10	≤2	10	>10
I	0.9	1	1.25	1	1.25	1.5	1.25	1.5	1.75
II	1	1.25	1.5	1.25	1.5	1.75	1.5	1.75	2
III	1.5	1.5	1.75	1.75	2	2.25	2	2.25	2.5

Starting Frequency Factor (f_2)

up to 20 starts per hour f2 = 1.0
up to 60 starts per hour f2 = 1.1
up to 200 starts per hour f2 = 1.3
up to 600 starts per hour f2 = 1.5
more than 600 starts per hour (on request)

Transmission Load Factor (f_3)

The total load on the drive shafts and their bearing is the result of:

a. The loads arising from the gear teeth
b. The axial and radial loads arising from the transmission mechanisms attached to the drive shafts. It is this load which must be considered when selecting the gearbox and shaft sizes.

Depending upon the type of transmission mechanism used in connecting the gear shafts to the driving and driven loads, axial and / or radial loads can be applied to the gearbox shafts and their bearings.

These loads can arise from:
either preload, due for example, to tension loading in belts
or dynamic forces, due for example, to out-of-balance in the transmission element
or shock load, due for example, to snatching in a chain drive.

The following table gives the factors which should be used to correct the Output Torque when sizing the gearbox.

Transmission Load Factor (f3)		
Transmission Mechanism	Preload	Dynamic
Clutches	-	1
Gears of all Types	-	1.00 1.25
Chains	1.00 1.25	1.25 1.50
Flat Belts	2.00 250	1.00 1.25
V-Belts, Toothed Belts	1.50 2.00	1.00 1.25

Thermal Limits

Due to the compact design of this range of spiral bevel gear units the ratings are controlled by the thermal capacity at some speeds.
A maximum case temperature of 80°C is specified and temperatures in excess of this figure normally indicate either incorrect oil levels or too much power being handled by the unit. If this temperature is exceeded Power Jacks should be consulted.

Thermal Limit - Duty Cycle - Factor (f_4)

Duty cycle per hour is the percentage of the time per hour during which the gearbox will be on-load.

Duty Cycle per Hour (%)	100	80	60	40	20
Thermal Limit Factor, f4	1	1.25	1.5	1.75	2

Thermal Limit - Ambient Temperature - Factor (f_5)

Ambient Temperature °C	10	20	30	40	50
Thermal Limit Factor, f5	1.2	1	0.87	0.75	0.62

Limiting Thermal Capacity

The capacity of some gears is limited by the maximum permissible temperature of the oil bath. The charts below show the limiting thermal capacities, which can be transferred without cooling at an ambient temperature of 20°C and duty cycle of 100% per hour.

Series	35	37	38	39	40	42
Power (kW)	3.3	9	20.5	49	90	190

WARNING: The case temperature must not exceed 80°C, (see thermal limits).
Power Jacks should be consulted if a gear unit is to be installed with a shaft positioned vertically.

Permissible Shaft Loading

After selecting the gearbox for the required duty it is necessary to check that the axial and radial loading arising from the transmission mechanism is acceptable for the gear shaft diameters on the selected gearbox (gear shaft diameters are given on the Dimensions page for the chosen design).

The bearing configuration on the shafting, the shaft diameter and the shaft speed determine the permissible external loading which can be carried by the shaft without bearing or shaft failure. The graph showing permissible radial forces on shafts has been drawn for a typical Output Shaft. In this arrangement the bearing centres are mounted at either end of the through shaft and there is a significant span which allows higher radial loads to be accepted, see sketch below. For typical Input Shafts and Output Shafts, which are overhung from the gearbox face, the bearing centres are closer together and the radial load carrying capacity is reduced, see sketch below.

To calculate the Permissible Loading on the gearbox shafts, use the gearbox output and input speeds and diameters respectively.

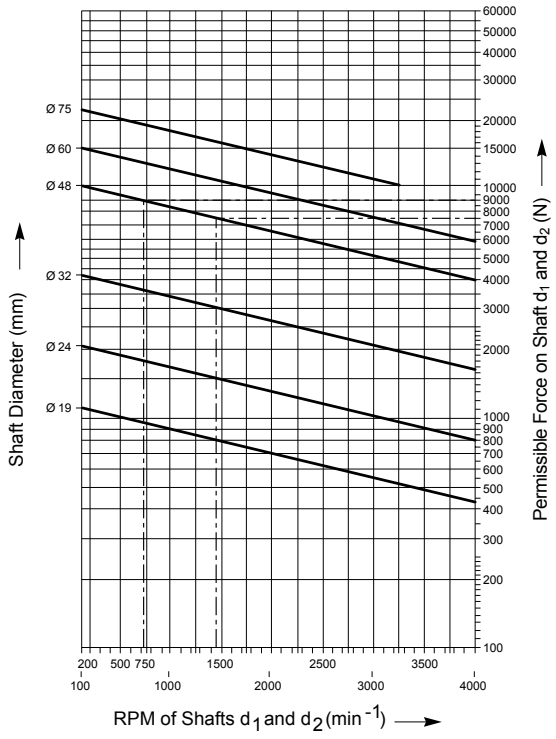
1. Read off the Permissible radial Force for the nearest diameter shafts from the graph below.
2. Use the Correction Factors, below, to calculate the Permissible Radial and Axial Loads for each of the gearbox shafts.

Correction Factors

	Output Shaft (Bearings on through shaft)	Input Shaft (Bearings on overhung shaft)	Output Shaft (Bearings on overhung shaft)	Gearboxes with Centre bearing
Permissible Radial Forces	1.00	0.66	0.66	0.40
Permissible Axial Forces	0.50	0.50	0.50	0.50

The calculated loads should be checked against the radial and axial loads provided by the manufacturer of the transmission mechanism. If the loading created by the transmission mechanism exceeds the permissible level, a gearbox with a larger diameter shaft is required. At this point Power Jacks should be consulted as it is often possible to fit a special shaft arrangement into a standard gearbox.

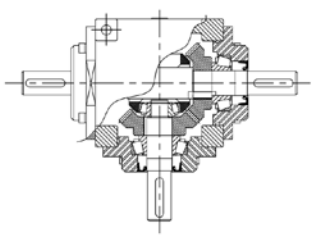
Permissible Shaft Loading Curves



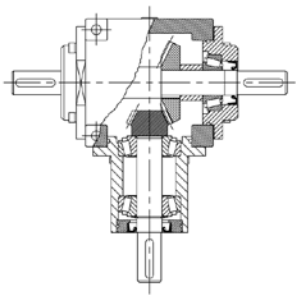
Permissible Shaft Loading Curves

Example: Series 39, Ratio 2:1, 1440 rpm Input

Ød1	=	48	permissible radial force 7500 N x 0.66 = 4950 N permissible axial force 4950 N x 0.50 = 2475 N
Ød2	=	48	permissible radial force 9000 N x 1.00 = 9000 N permissible axial force 9000 N x 0.50 = 4500 N

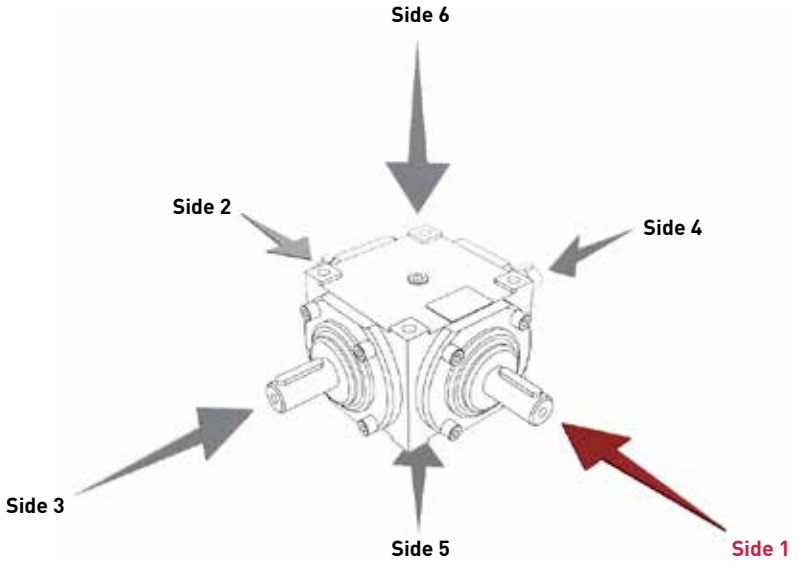


Ratios 1:1 & 1.5:1



Ratios 2:1 & above

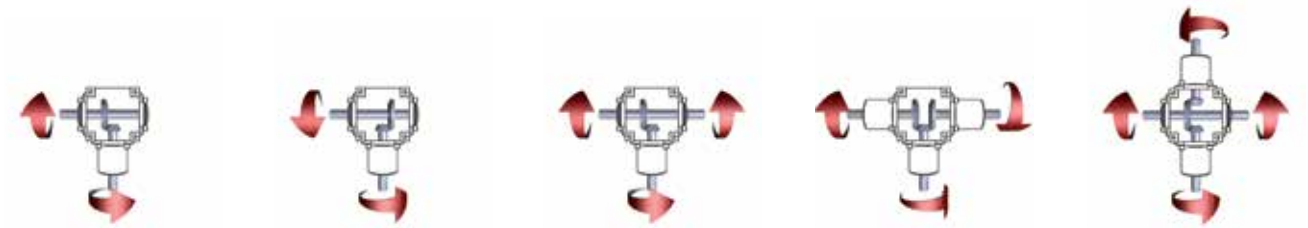
Configuration/Rotation Diagrams



Ratio 1:1 & 1.5:1

2 (2 Way) | 5 (2 Way Reverse) | 3 (3 Way) | 4 (3 Way Reverse) | 7 (4 Way)

Ratio 2:1 & Above



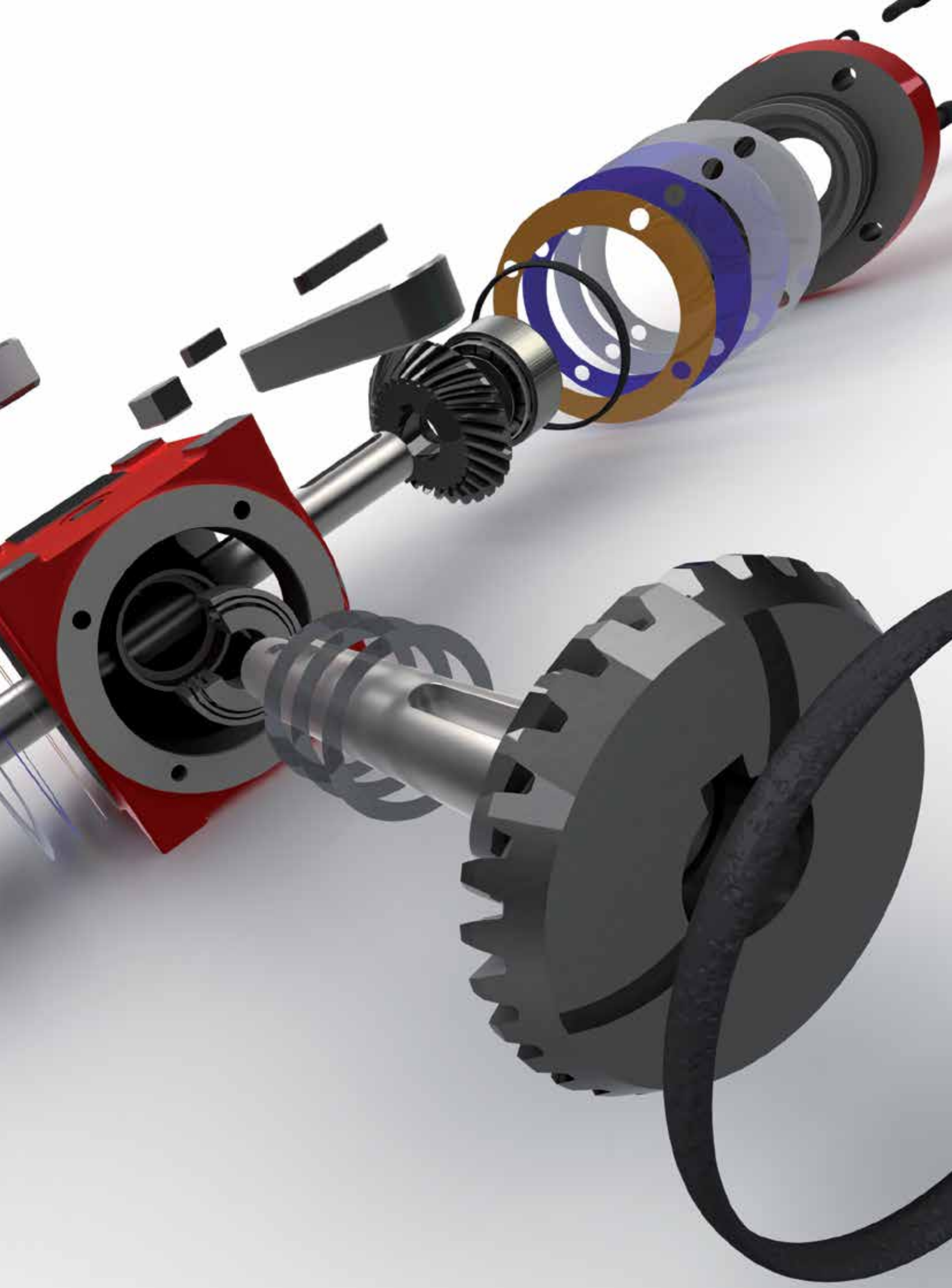
2 (2 Way) | 5 (2 Way Reverse) | 3 (3 Way) | 4 (3 Way Reverse) | 7 (4 Way)

Hollow Shaft - All Ratios

K (2 Way) | L (2 Way Reverse) | 0 (3 Way) | J (4 Way)

Ultra Compact & Versatile Design.
Precision Spiral Bevel Gears.
Accurate gear mesh delivers high torque with smooth and quiet transmission.

Neeter Drive
Spiral Bevel Gearboxes



Performance

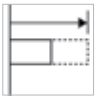
Series 35		
Torque (Nm)	Nominal#1	46
	Max Running#2	93
	Max Start-Up	140
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	3.3
Backlash	arcmin	9 to 16
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	0.14
	Pints	0.24
Weight (kg)	2 Way - 1:1 & 1.5:1	4.5
	3 Way - 1:1 & 1.5:1	4.75

Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options


Special Gear Ratio


Motor Flange


Extended Drive Shaft


Limit Switches


Drives


Light Weight Design


Reinforced Shaft OR High Torque


Breather


90° Breather


Mounting Feet


Shaft Cover


Stainless Steel


Submersible


Corrosion Protection


Nuclear Rated

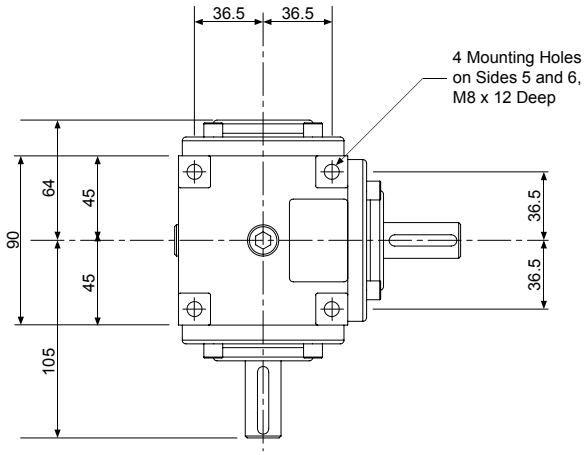

Food Grade


Low Temperature

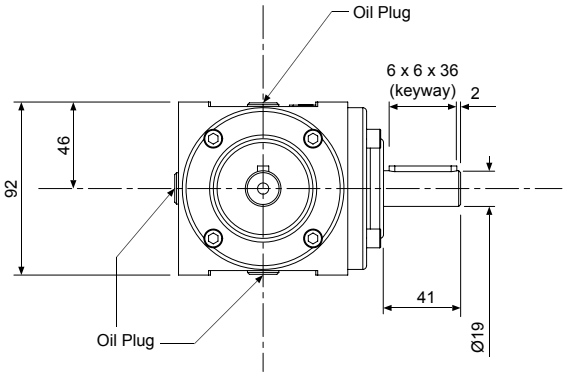

High Temperature

2 Way Solid Shaft

35241M



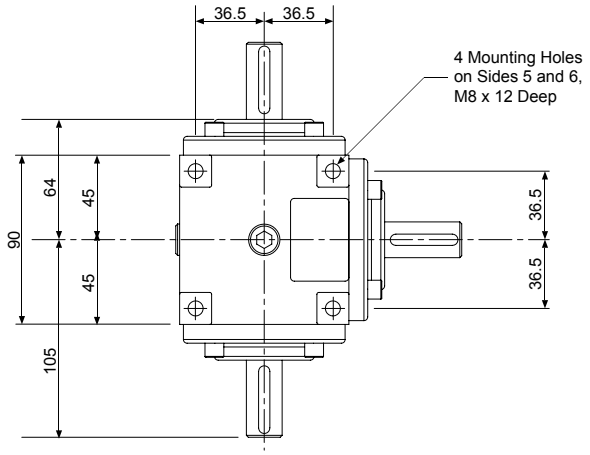
Tapped hole in end of each solid drive shaft - M6 x 16mm Deep



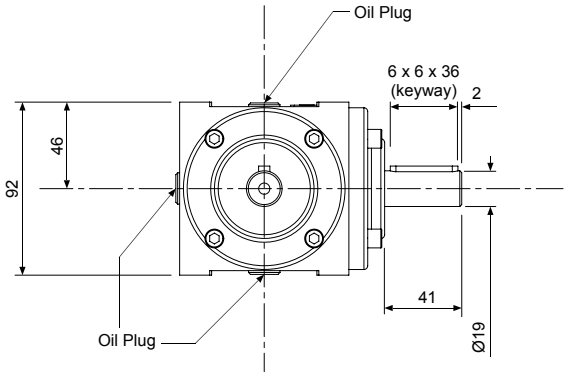
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Solid Shaft

35341M



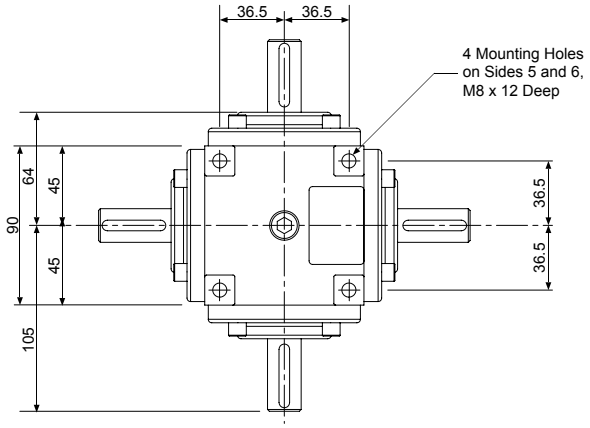
Tapped hole in end of each solid drive shaft - M6 x 16mm Deep



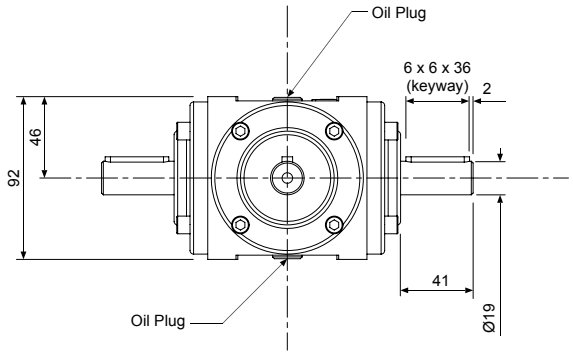
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Solid Shaft

35741M



Tapped hole in end of each solid drive shaft - M6 x 16mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

Series 35		
Torque (Nm)	Nominal#1	46
	Max Running#2	93
	Max Start-Up	140
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	3.3
Backlash	arcmin	9 to 16
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	0.14
	Pints	0.24
Weight (kg)	2 Way - 2:1 +	6.5
	3 Way - 2:1 +	6.75

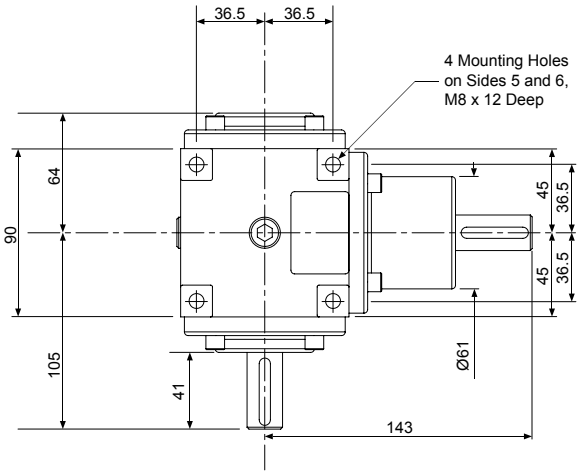
Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options

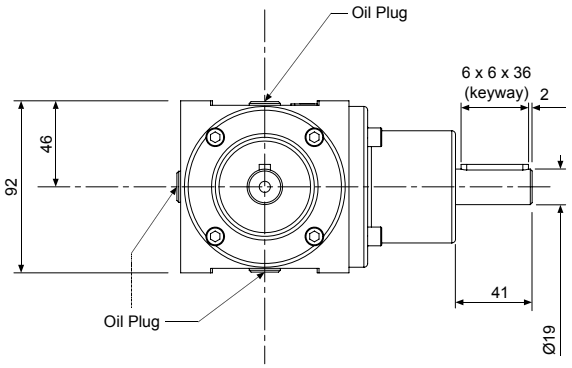
- Special Gear Ratio
- Extended Drive Shaft
- Drives
- Reinforced Shaft OR High Torque
- 90° Breather
- Shaft Cover
- Submersible
- Nuclear Rated
- Low Temperature
- Motor Flange
- Limit Switches
- Light Weight Design
- Breather
- Mounting Feet
- Stainless Steel
- Corrosion Protection
- Food Grade
- High Temperature

2 Way Solid Shaft

35242M



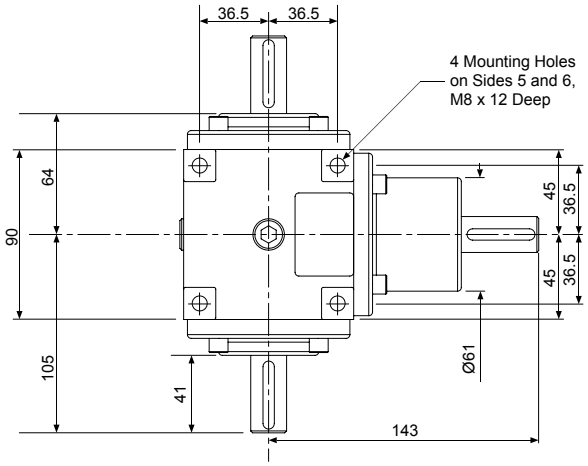
Tapped hole in end of each solid drive shaft - M6 x 16mm Deep



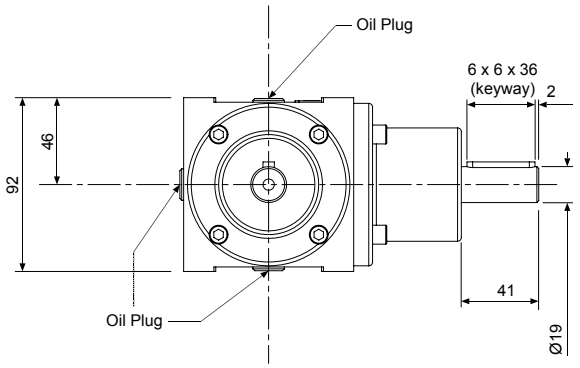
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Solid Shaft

35342M



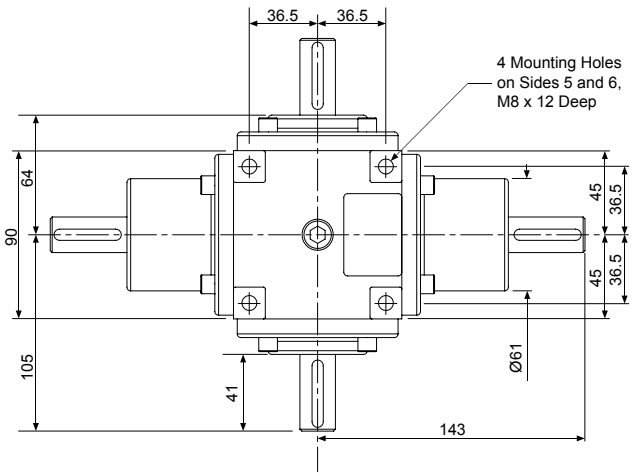
Tapped hole in end of each solid drive shaft - M6 x 16mm Deep



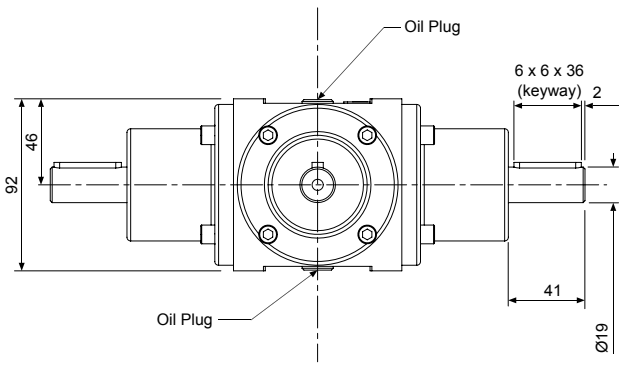
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Solid Shaft

35742M



Tapped hole in end of each solid drive shaft - M6 x 16mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

Series 35		
Torque (Nm)	Nominal#1	46
	Max Running#2	93
	Max Start-Up	140
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	3.3
Backlash	arcmin	9 to 16
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	0.14
	Pints	0.24
Weight (kg)	2 Way - 1:1 & 1.5:1	4.5
	2 Way - 2:1 +	6.5
	3 Way - 1:1 & 1.5:1	4.75
	3 Way - 2:1 +	6.75

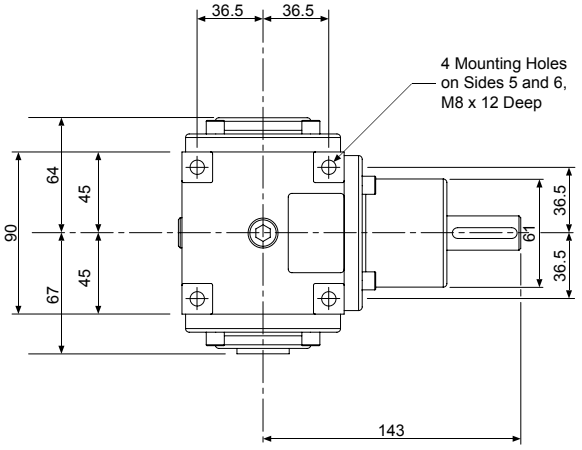
Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options

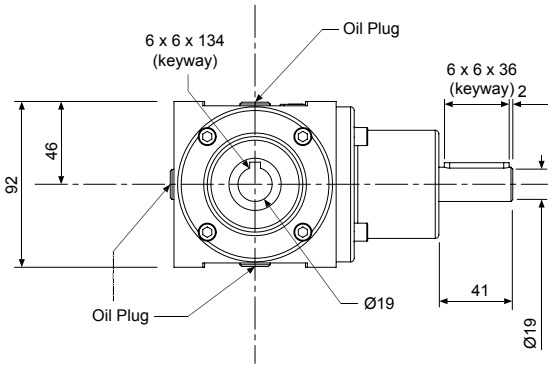
- Special Gear Ratio
- Motor Flange
- Extended Drive Shaft
- Limit Switches
- Drives
- Light Weight Design
- Reinforced Shaft OR High Torque
- Breather
- 90° Breather
- Mounting Feet
- Shaft Cover
- Stainless Steel
- Submersible
- Corrosion Protection
- Nuclear Rated
- Food Grade
- Low Temperature
- High Temperature

2 Way Hollow Shaft

35K41M



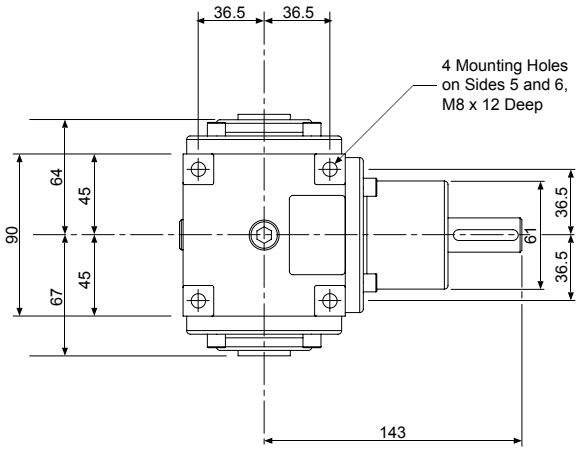
Tapped hole in end of each solid drive shaft - M6 x 16mm Deep



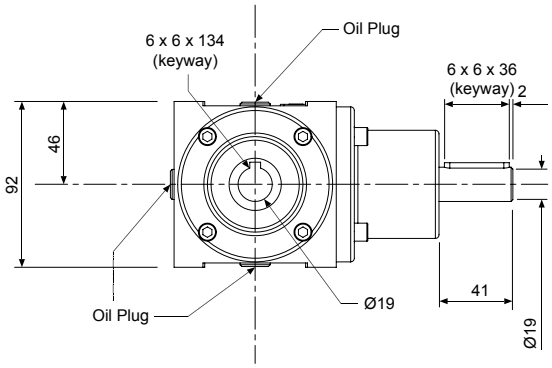
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Hollow Shaft

35041M



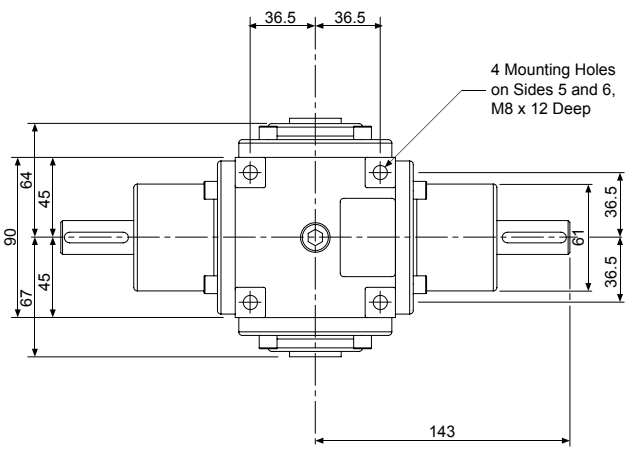
Tapped hole in end of each solid drive shaft - M6 x 16mm Deep



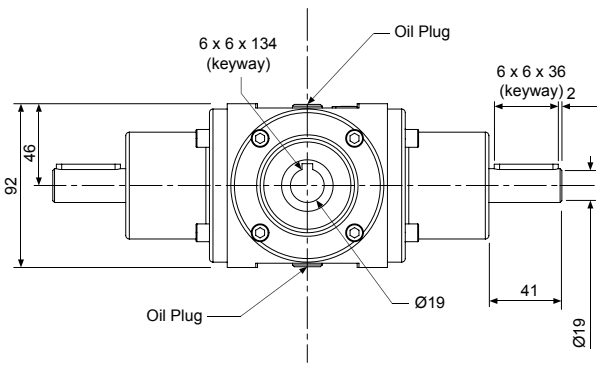
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Hollow Shaft

35J41M



Tapped hole in end of each solid drive shaft - M6 x 16mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

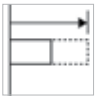
Series 37		
Torque (Nm)	Nominal#1	115
	Max Running#2	187
	Max Start-Up	281
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	9
Backlash	arcmin	9 to 16
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	0.29
	Pints	0.5
Weight (kg)	2 Way - 1:1 & 1.5:1	10.5
	3 Way - 1:1 & 1.5:1	11

Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options


Special Gear Ratio


Motor Flange


Extended Drive Shaft


Limit Switches


Drives


Light Weight Design


Reinforced Shaft OR High Torque


Breather


90° Breather


Mounting Feet


Shaft Cover


Stainless Steel


Submersible


Corrosion Protection


Nuclear Rated

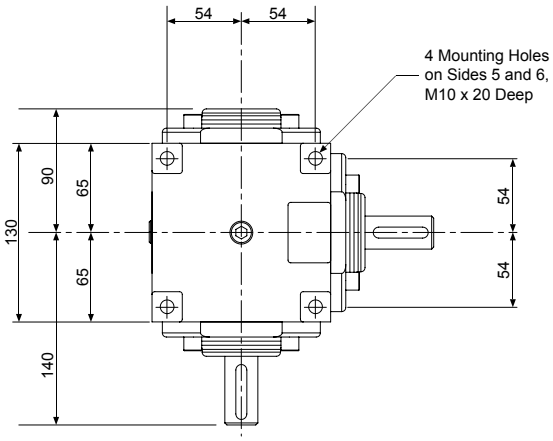

Food Grade


Low Temperature

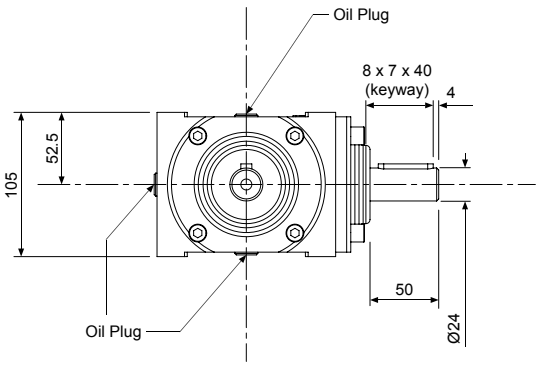

High Temperature

2 Way Solid Shaft

37241M



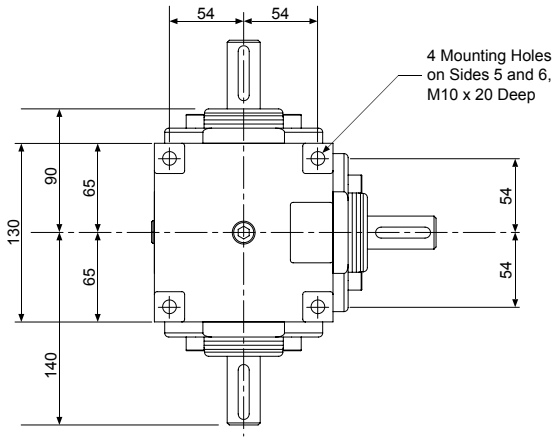
Tapped hole in end of each solid drive shaft - M8 x 25mm Deep



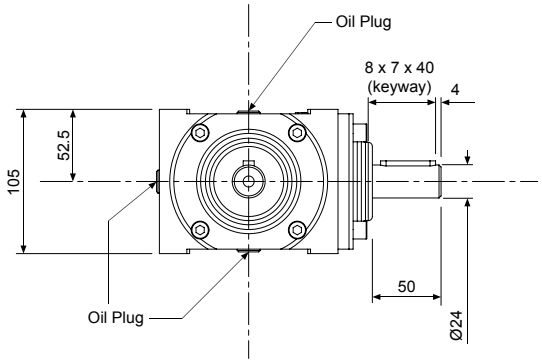
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Solid Shaft

37341M



Tapped hole in end of each solid drive shaft - M8 x 25mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
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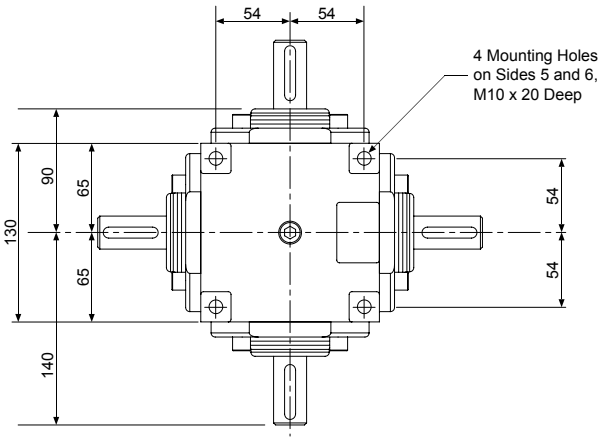
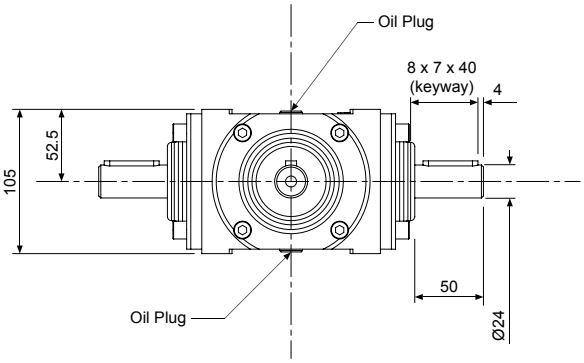
4 Way Solid Shaft

37741M



Tapped hole in end of each solid drive shaft - M8 x 25mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

Series 37		
Torque (Nm)	Nominal#1	115
	Max Running#2	187
	Max Start-Up	281
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	9
Backlash	arcmin	9 to 16
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	0.29
	Pints	0.5
Weight (kg)	2 Way - 2:1 +	12
	3 Way - 2:1 +	12.5

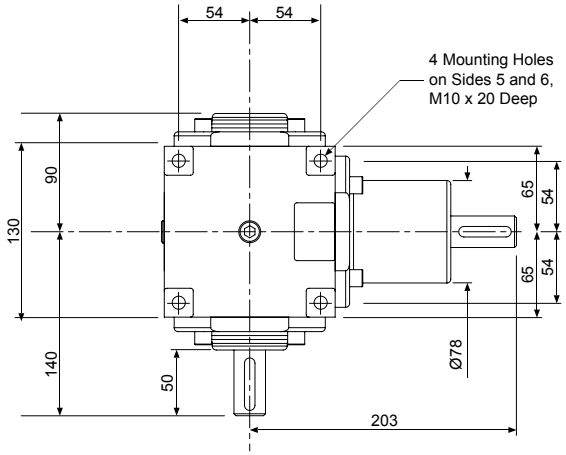
Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options

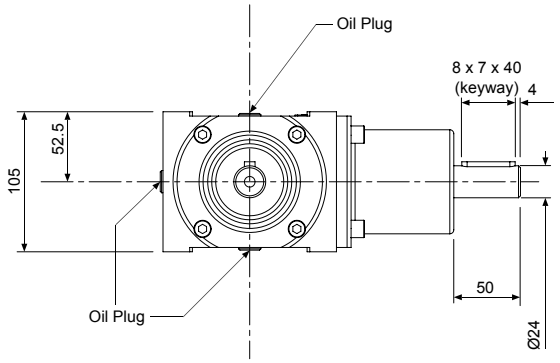
- Special Gear Ratio
- Extended Drive Shaft
- Drives
- Reinforced Shaft OR High Torque
- 90° Breather
- Shaft Cover
- Submersible
- Nuclear Rated
- Low Temperature
- Motor Flange
- Limit Switches
- Light Weight Design
- Breather
- Mounting Feet
- Stainless Steel
- Corrosion Protection
- Food Grade
- High Temperature

2 Way Solid Shaft

37242M



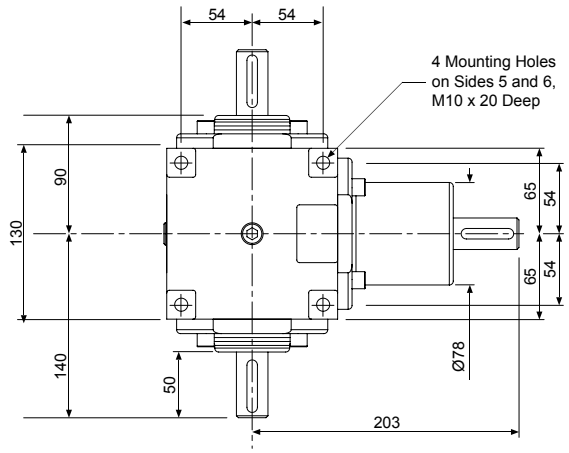
Tapped hole in end of each solid drive shaft - M8 x 25mm Deep



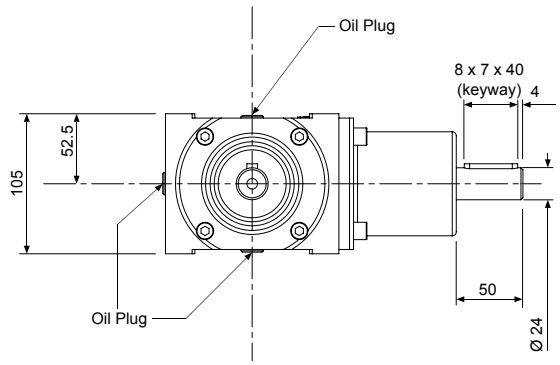
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Solid Shaft

37342M



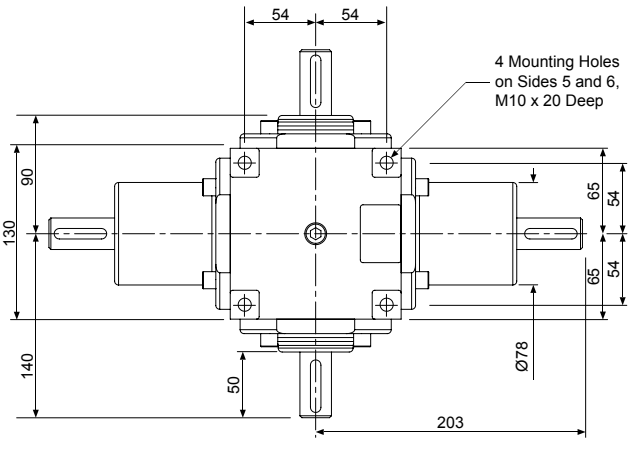
Tapped hole in end of each solid drive shaft - M8 x 25mm Deep



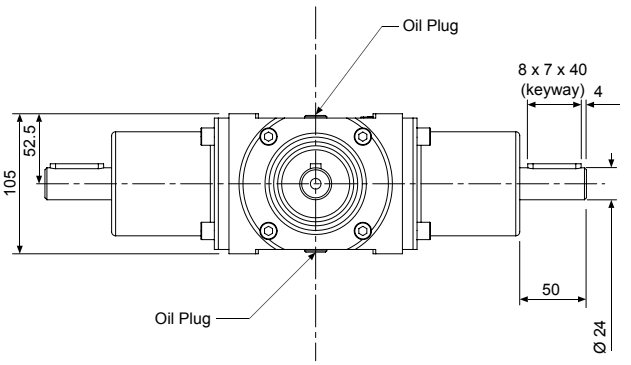
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Solid Shaft

37742M



Tapped hole in end of each solid drive shaft - M8 x 25mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
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Performance

Series 37		
Torque (Nm)	Nominal#1	115
	Max Running#2	187
	Max Start-Up	281
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	9
Backlash	arcmin	9 to 16
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	0.29
	Pints	0.5
Weight (kg)	2 Way - 1:1 & 1.5:1	10.5
	2 Way - 2:1 +	12
	3 Way - 1:1 & 1.5:1	11
	3 Way - 2:1 +	12.5

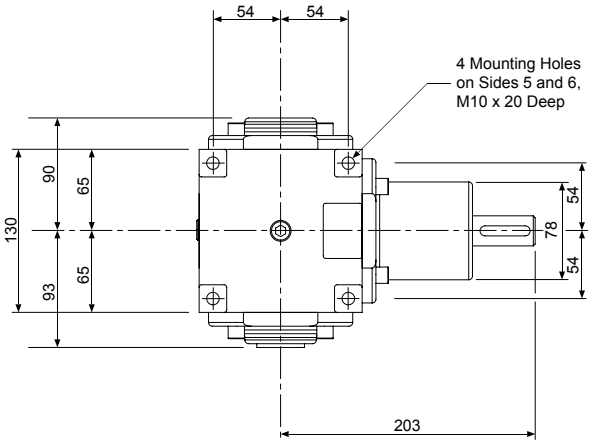
Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options

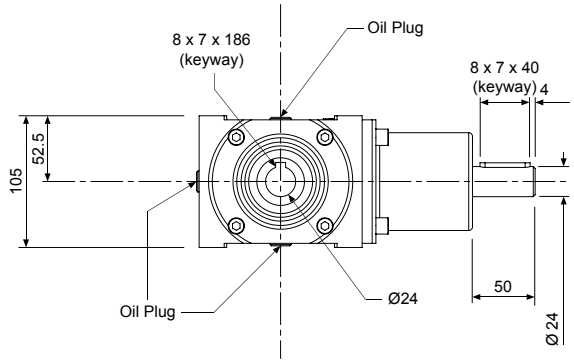
- Special Gear Ratio
- Motor Flange
- Extended Drive Shaft
- Limit Switches
- Drives
- Light Weight Design
- Reinforced Shaft OR High Torque
- Breather
- 90° Breather
- Mounting Feet
- Shaft Cover
- Stainless Steel
- Submersible
- Corrosion Protection
- Nuclear Rated
- Food Grade
- Low Temperature
- High Temperature

2 Way Hollow Shaft

37K4M



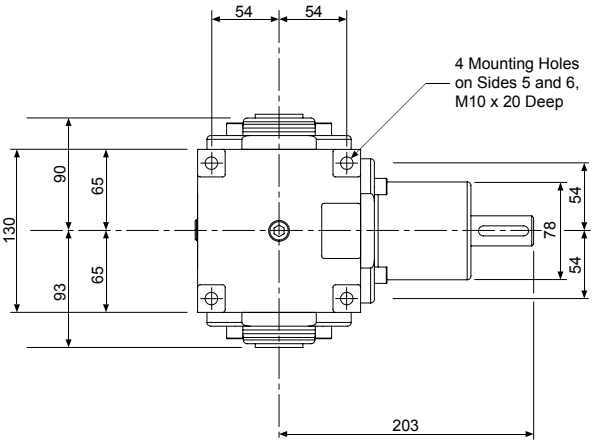
Tapped hole in end of each solid drive shaft - M8 x 25mm Deep



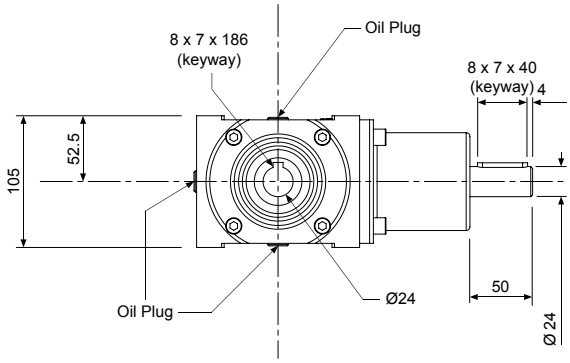
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Hollow Shaft

37041M



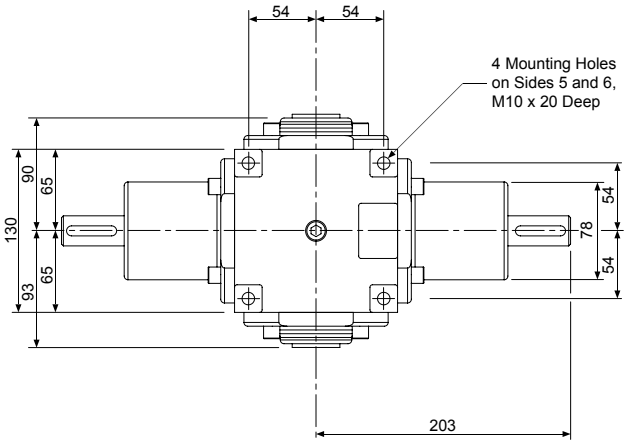
Tapped hole in end of each solid drive shaft - M8 x 25mm Deep



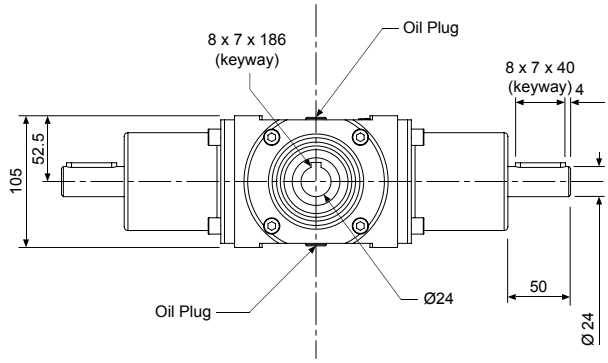
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Hollow Shaft

37J41M



Tapped hole in end of each solid drive shaft - M8 x 25mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

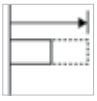
Series 38		
Torque (Nm)	Nominal#1	328
	Max Running#2	505
	Max Start-Up	758
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	20.5
Backlash	arcmin	9 to 16
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	0.75
	Pints	1.32
Weight (kg)	2 Way - 1:1 & 1.5:1	20
	3 Way - 1:1 & 1.5:1	20.5

Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options


Special Gear Ratio


Motor Flange


Extended Drive Shaft


Limit Switches


Drives


Light Weight Design


Reinforced Shaft OR High Torque


Breather


90° Breather


Mounting Feet


Shaft Cover


Stainless Steel


Submersible


Corrosion Protection


Nuclear Rated

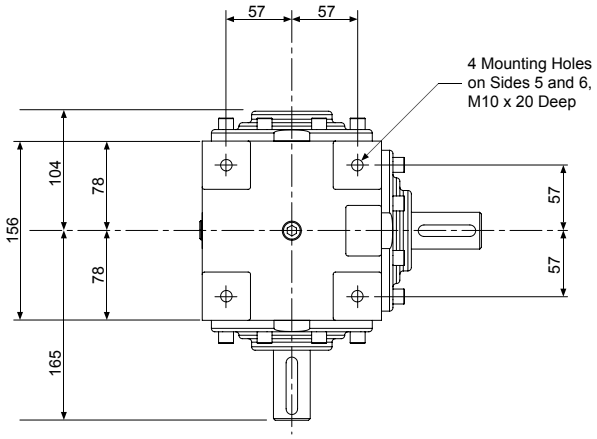

Food Grade


Low Temperature

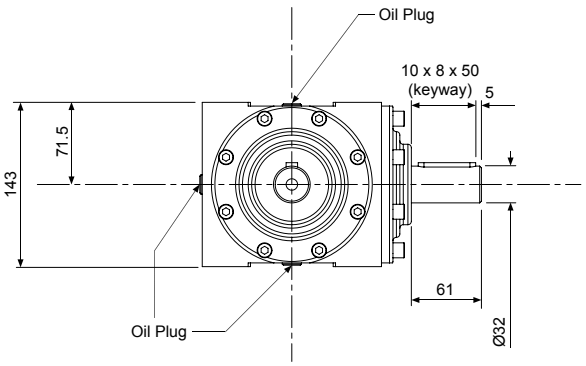

High Temperature

2 Way Solid Shaft

38241M



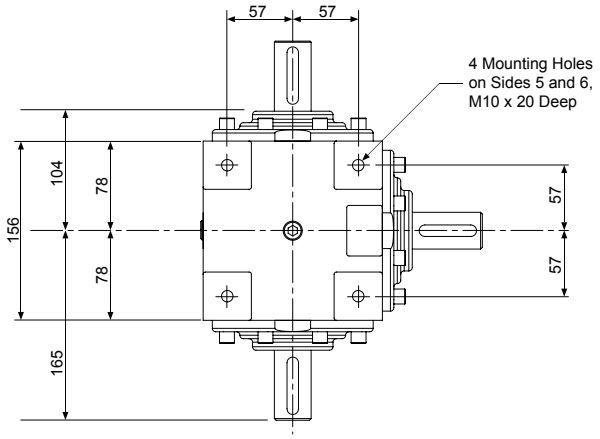
Tapped hole in end of each solid drive shaft - M10 x 25mm Deep



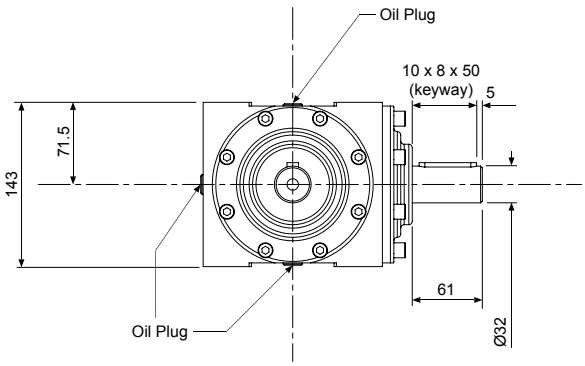
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Solid Shaft

38341M



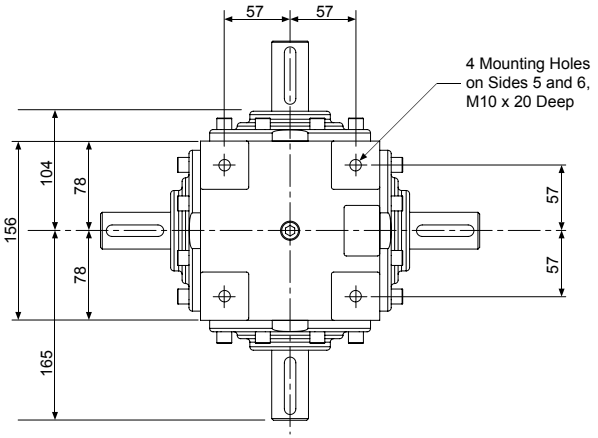
Tapped hole in end of each solid drive shaft - M10 x 25mm Deep



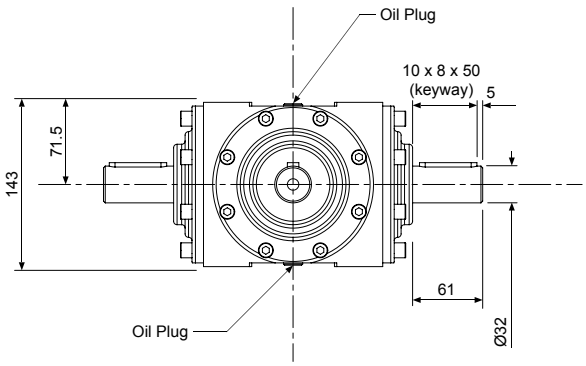
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Solid Shaft

38741M



Tapped hole in end of each solid drive shaft - M10 x 25mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

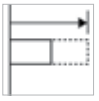
Series 38		
Torque (Nm)	Nominal#1	328
	Max Running#2	505
	Max Start-Up	758
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	20.5
Backlash	arcmin	9 to 16
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	0.75
	Pints	1.32
Weight (kg)	2 Way - 2:1 +	23
	3 Way - 2:1 +	23.5

Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options


Special Gear Ratio


Motor Flange


Extended Drive Shaft


Limit Switches


Drives


Light Weight Design


Reinforced Shaft OR High Torque


Breather


90° Breather


Mounting Feet


Shaft Cover


Stainless Steel


Submersible


Corrosion Protection


Nuclear Rated

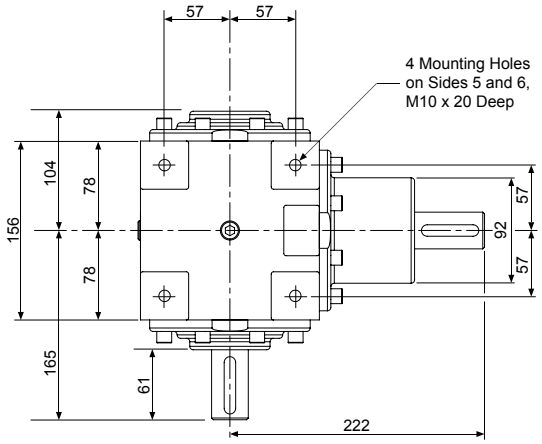

Food Grade


Low Temperature

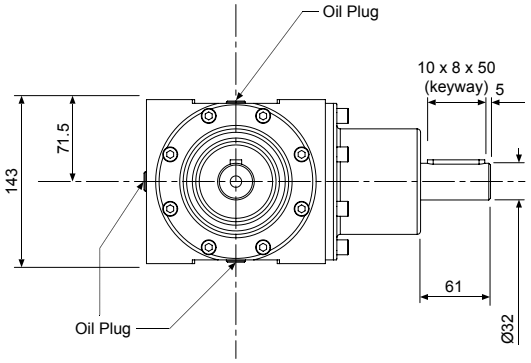

High Temperature

2 Way Solid Shaft

38242M



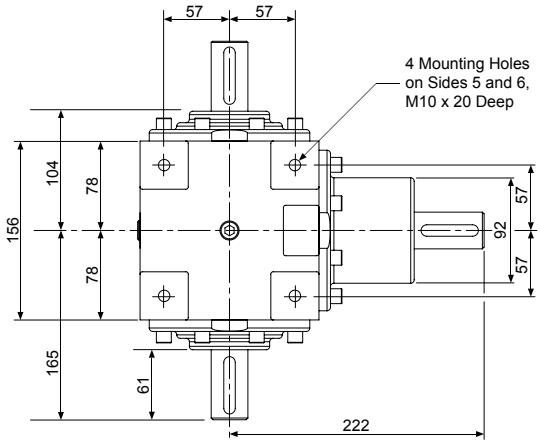
Tapped hole in end of each solid drive shaft - M10 x 25mm Deep



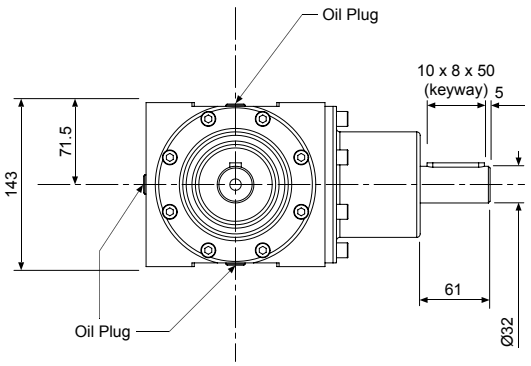
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Solid Shaft

38342M



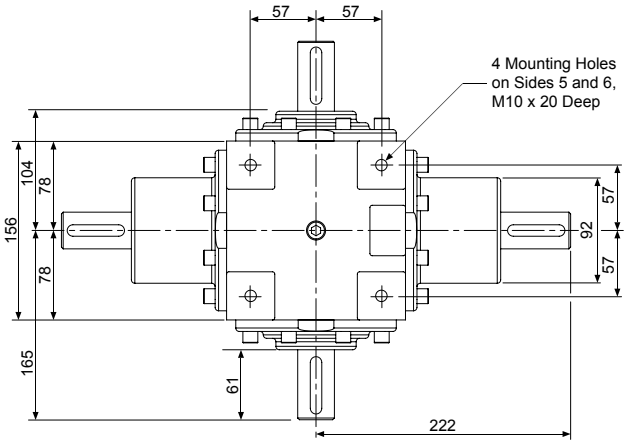
Tapped hole in end of each solid drive shaft - M10 x 25mm Deep



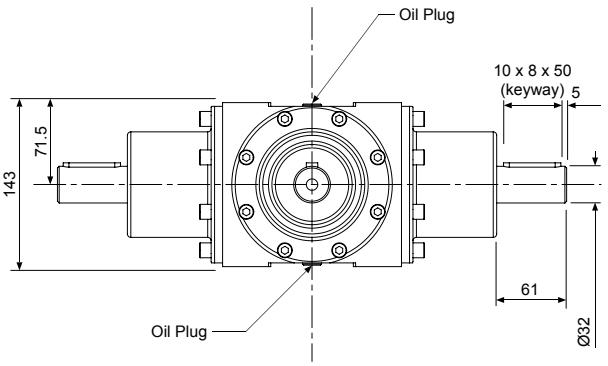
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Solid Shaft

38742M



Tapped hole in end of each solid drive shaft - M10 x 25mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

Series 38		
Torque (Nm)	Nominal#1	328
	Max Running#2	505
	Max Start-Up	758
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	20.5
Backlash	arcmin	9 to 16
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	0.75
	Pints	1.32
Weight (kg)	2 Way - 1:1 & 1.5:1	20
	2 Way - 2:1 +	23
	3 Way - 1:1 & 1.5:1	20.5
	3 Way - 2:1 +	23.5

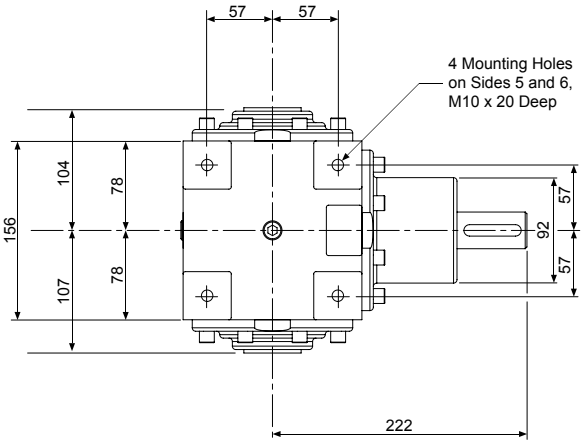
Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options

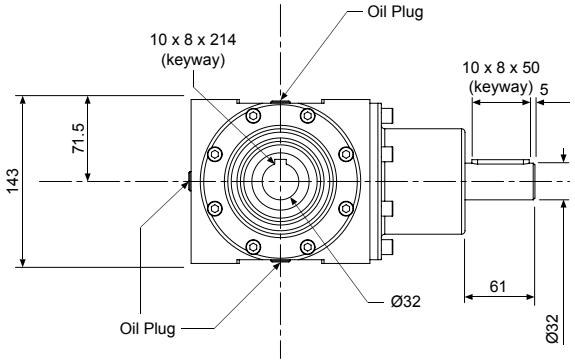
- Special Gear Ratio
- Motor Flange
- Extended Drive Shaft
- Limit Switches
- Drives
- Light Weight Design
- Reinforced Shaft OR High Torque
- Breather
- 90° Breather
- Mounting Feet
- Shaft Cover
- Stainless Steel
- Submersible
- Corrosion Protection
- Nuclear Rated
- Food Grade
- Low Temperature
- High Temperature

2 Way Hollow Shaft

38K41M



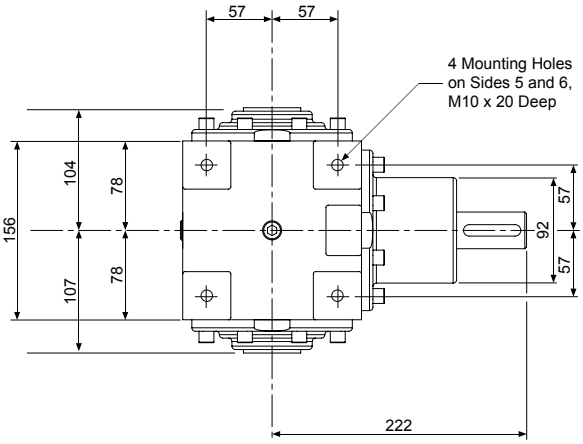
Tapped hole in end of each solid drive shaft - M10 x 25mm Deep



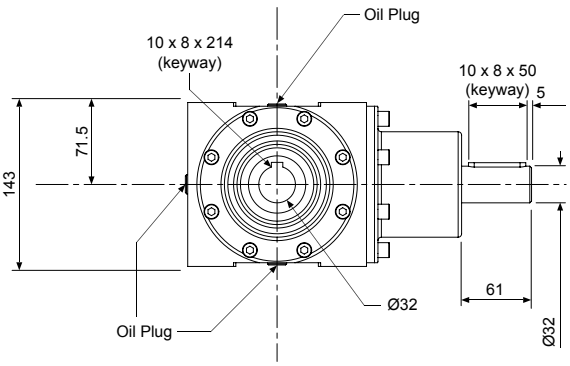
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Hollow Shaft

38041M



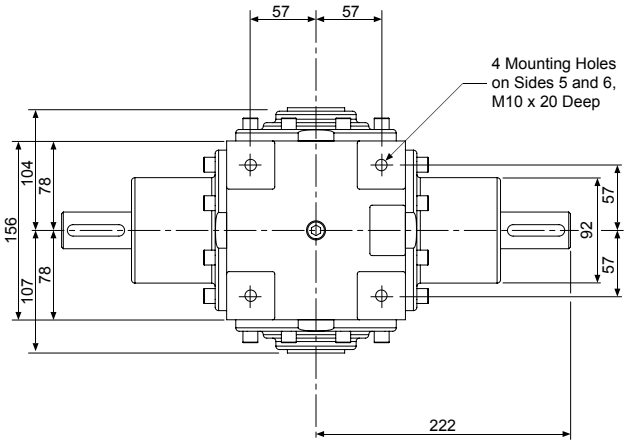
Tapped hole in end of each solid drive shaft - M10 x 25mm Deep



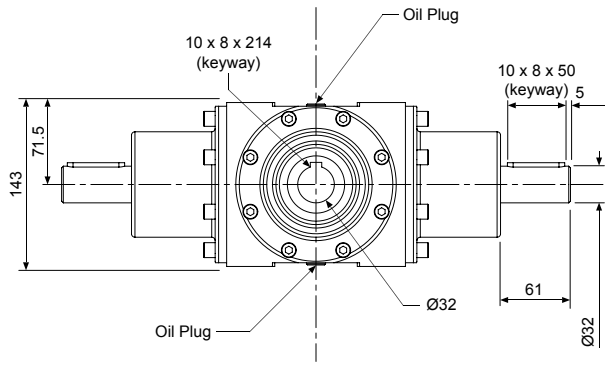
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Hollow Shaft

38J41M



Tapped hole in end of each solid drive shaft - M10 x 25mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

Series 39		
Torque (Nm)	Nominal#1	481
	Max Running#2	935
	Max Start-Up	1403
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	49
Backlash	arcmin	7 to 10
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	1.71
	Pints	3
Weight (kg)	2 Way - 1:1 & 1.5:1	38
	3 Way - 1:1 & 1.5:1	46.5

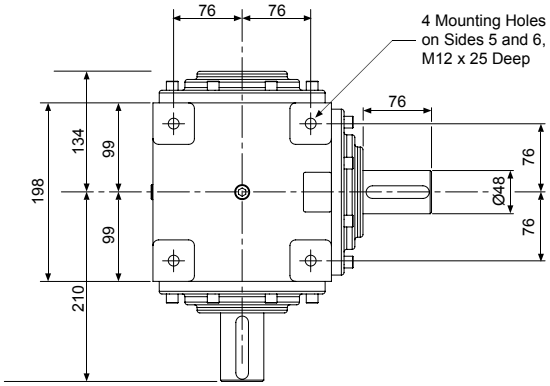
Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options

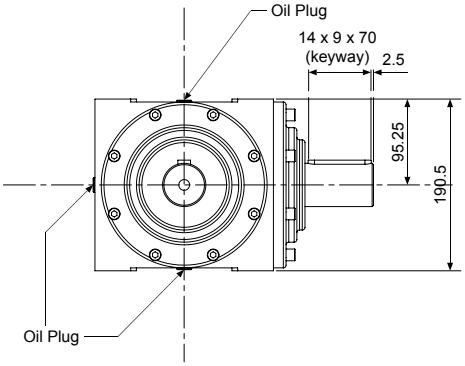
- Special Gear Ratio
- Motor Flange
- Extended Drive Shaft
- Limit Switches
- Drives
- Light Weight Design
- Reinforced Shaft OR High Torque
- Breather
- 90° Breather
- Mounting Feet
- Shaft Cover
- Stainless Steel
- Submersible
- Corrosion Protection
- Nuclear Rated
- Food Grade
- Low Temperature
- High Temperature

2 Way Solid Shaft

39241M



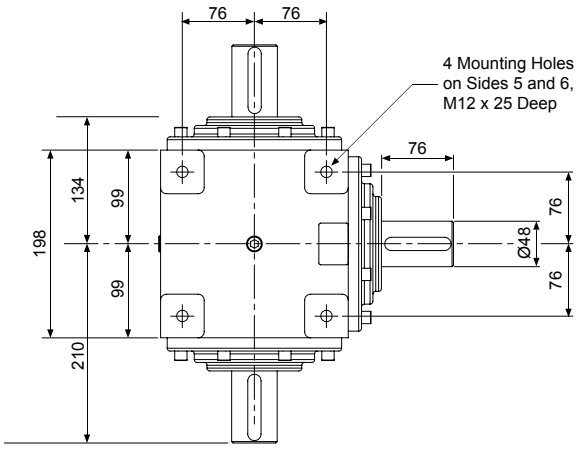
Tapped hole in end of each solid drive shaft - M12 x 30mm Deep



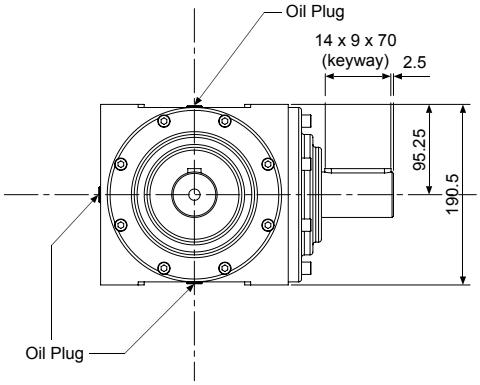
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Solid Shaft

39341M



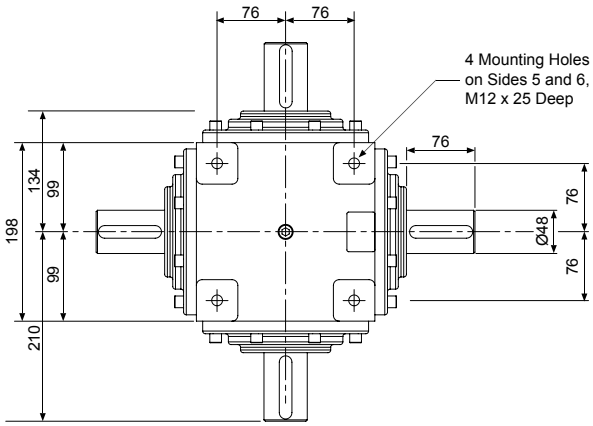
Tapped hole in end of each solid drive shaft - M12 x 30mm Deep



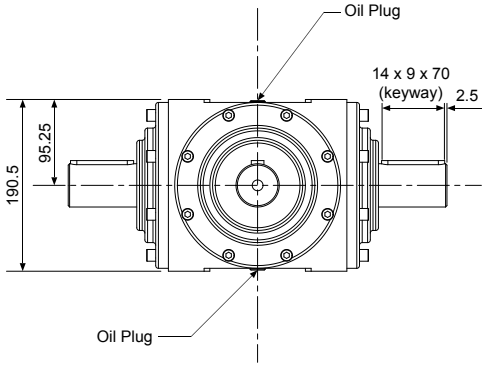
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Solid Shaft

39741M



Tapped hole in end of each solid drive shaft - M12 x 30mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

Series 39		
Torque (Nm)	Nominal#1	481
	Max Running#2	935
	Max Start-Up	1403
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	49
Backlash	arcmin	7 to 10
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	1.71
	Pints	3
Weight (kg)	2 Way - 2:1 +	45
	3 Way - 2:1 +	53

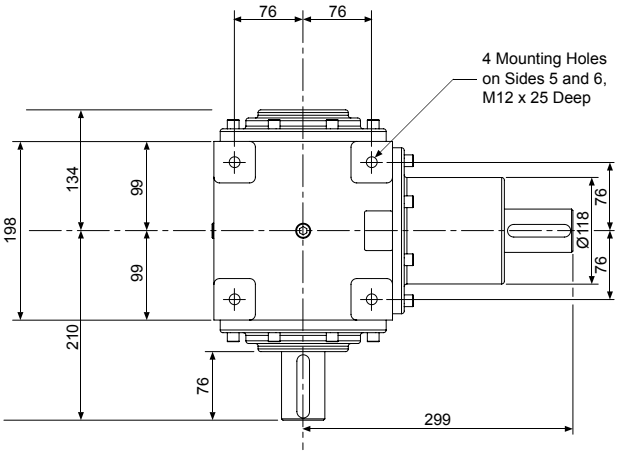
Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options

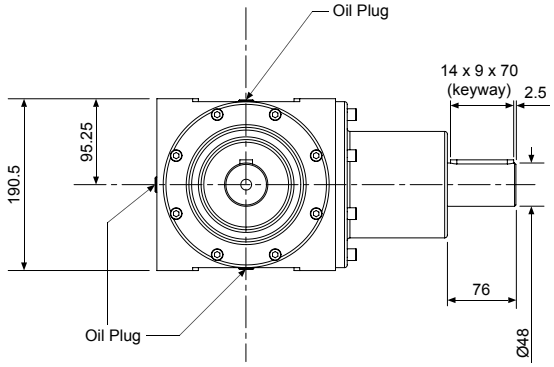
- Special Gear Ratio
- Motor Flange
- Extended Drive Shaft
- Limit Switches
- Drives
- Light Weight Design
- Reinforced Shaft OR High Torque
- Breather
- 90° Breather
- Mounting Feet
- Shaft Cover
- Stainless Steel
- Submersible
- Corrosion Protection
- Nuclear Rated
- Food Grade
- Low Temperature
- High Temperature

2 Way Solid Shaft

39242M



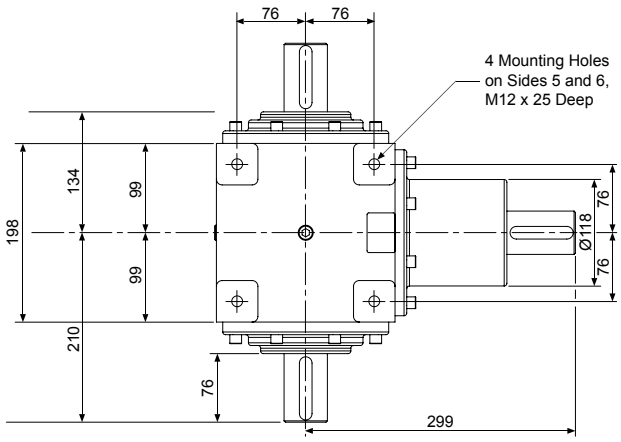
Tapped hole in end of each solid drive shaft - M12 x 30mm Deep



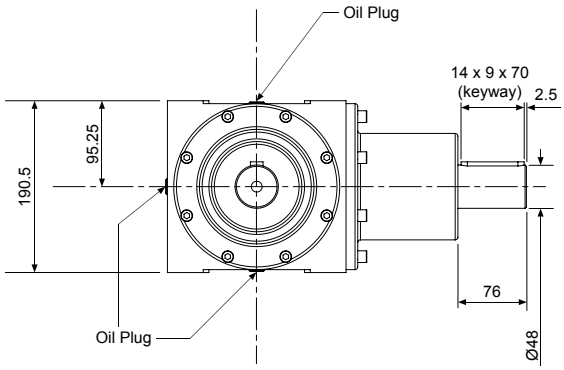
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Solid Shaft

39342M



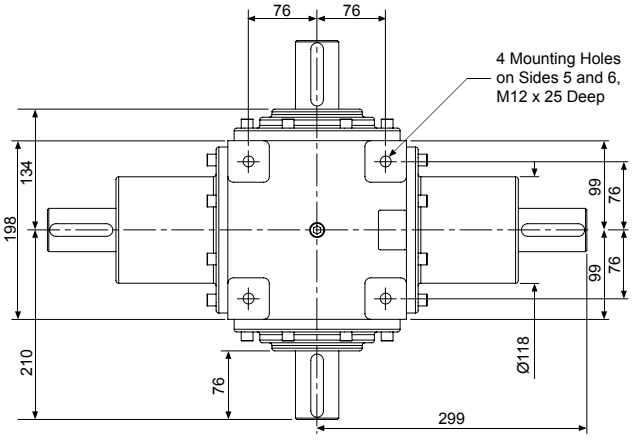
Tapped hole in end of each solid drive shaft - M12 x 30mm Deep



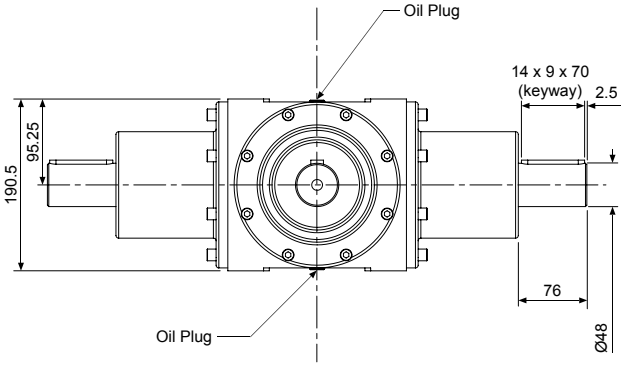
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Solid Shaft

39742M



Tapped hole in end of each solid drive shaft - M12 x 30mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

Series 39		
Torque (Nm)	Nominal#1	481
	Max Running#2	935
	Max Start-Up	1403
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	49
Backlash	arcmin	7 to 10
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	1.71
	Pints	3
Weight (kg)	2 Way - 1:1 & 1.5:1	38
	2 Way - 2:1 +	45
	3 Way - 1:1 & 1.5:1	46.5
	3 Way - 2:1 +	53

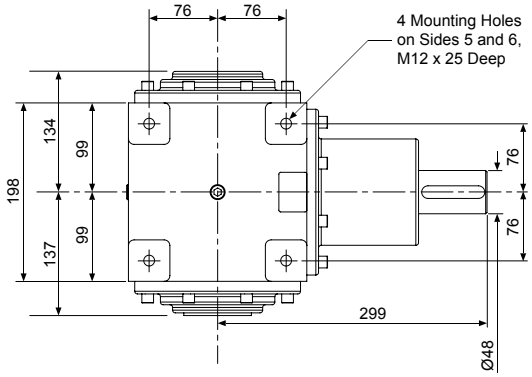
Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options

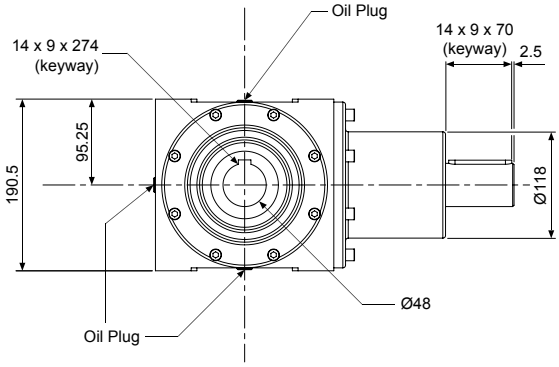
- Special Gear Ratio
- Motor Flange
- Extended Drive Shaft
- Limit Switches
- Drives
- Light Weight Design
- Reinforced Shaft OR High Torque
- Breather
- 90° Breather
- Mounting Feet
- Shaft Cover
- Stainless Steel
- Submersible
- Corrosion Protection
- Nuclear Rated
- Food Grade
- Low Temperature
- High Temperature

2 Way Hollow Shaft

39K41M



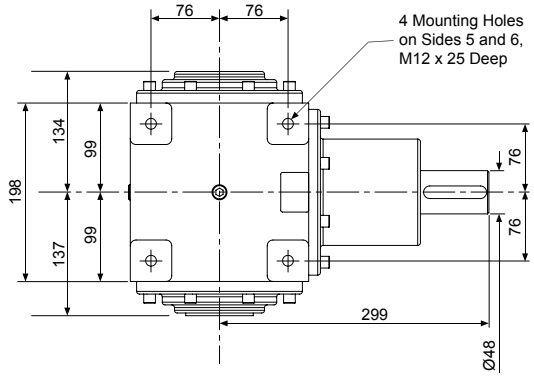
Tapped hole in end of each solid drive shaft - M12 x 30mm Deep



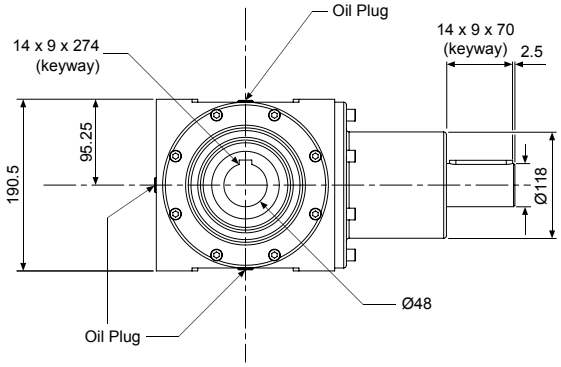
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Hollow Shaft

39041M



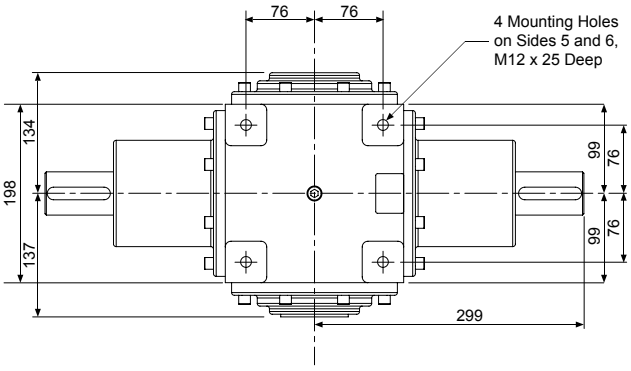
Tapped hole in end of each solid drive shaft - M12 x 30mm Deep



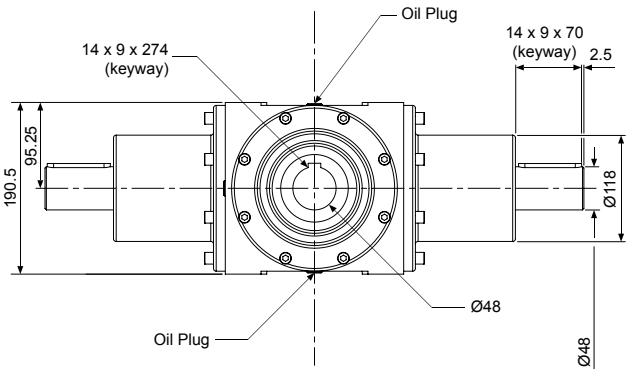
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Hollow Shaft

39J41M



Tapped hole in end of each solid drive shaft - M12 x 30mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

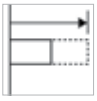
Series 40		
Torque (Nm)	Nominal#1	1353
	Max Running#2	3088
	Max Start-Up	4632
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	90
Backlash	arcmin	7 to 10
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	3.27
	Pints	5.75
Weight (kg)	2 Way - 1:1 & 1.5:1	112
	3 Way - 1:1 & 1.5:1	116

Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options


Special Gear Ratio


Motor Flange


Extended Drive Shaft


Limit Switches


Drives


Light Weight Design


Reinforced Shaft OR High Torque


Breather


90° Breather


Mounting Feet


Shaft Cover


Stainless Steel


Submersible


Corrosion Protection


Nuclear Rated

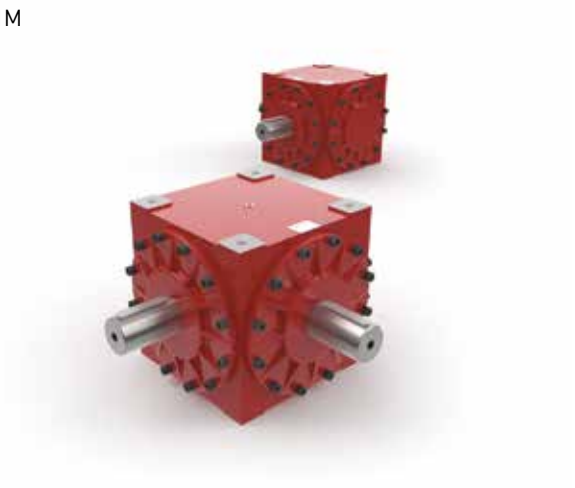

Food Grade

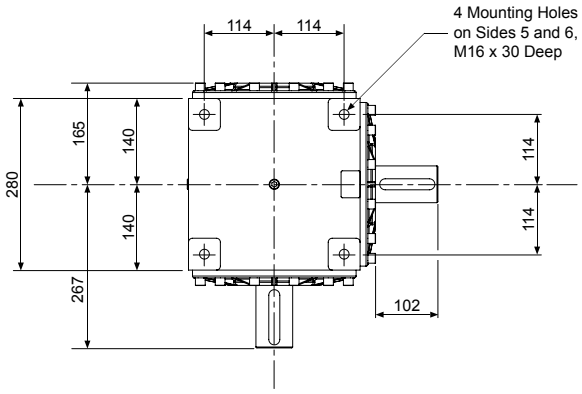

Low Temperature


High Temperature

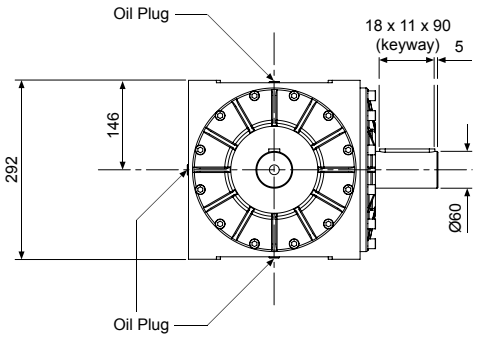
2 Way Solid Shaft

40241M





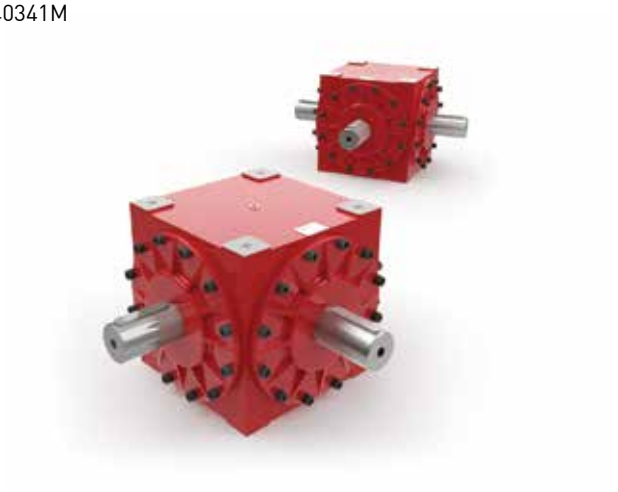
Tapped hole in end of each solid drive shaft - M16 x 38mm Deep

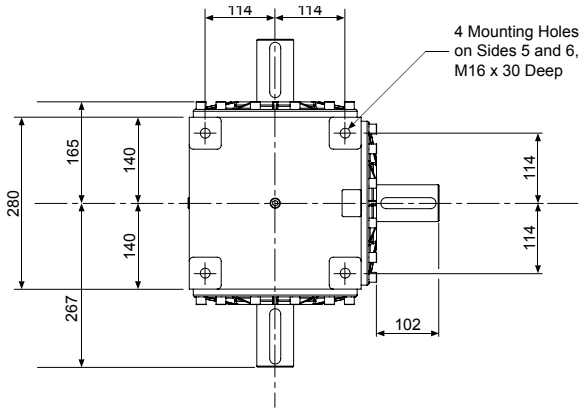


Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

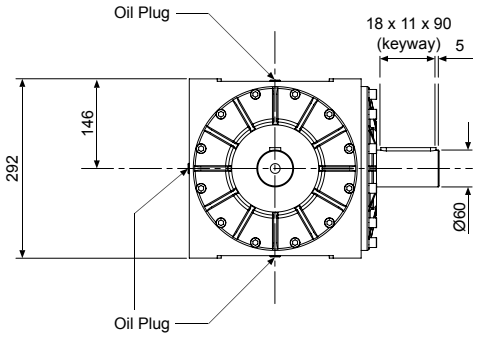
3 Way Solid Shaft

40341M





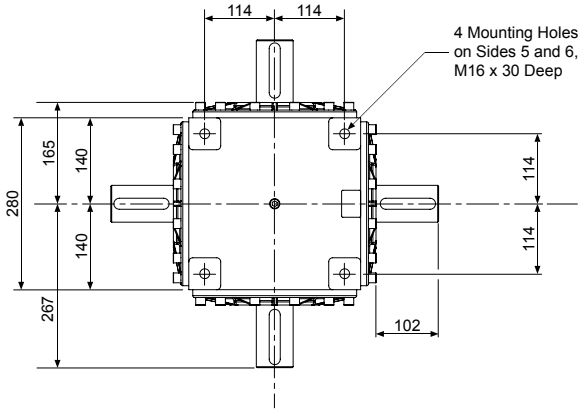
Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



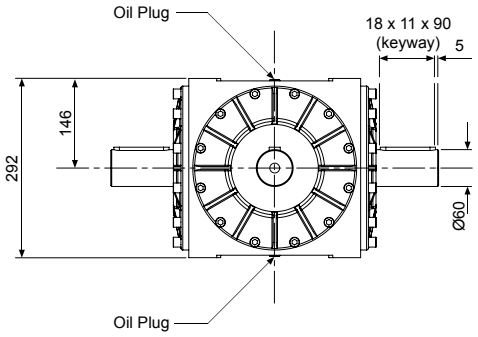
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Solid Shaft

40741M



Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

Series 40		
Torque (Nm)	Nominal#1	1353
	Max Running#2	3088
	Max Start-Up	4632
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	90
Backlash	arcmin	7 to 10
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	3.27
	Pints	5.75
Weight (kg)	2 Way - 2:1 +	126.5
	3 Way - 2:1 +	131

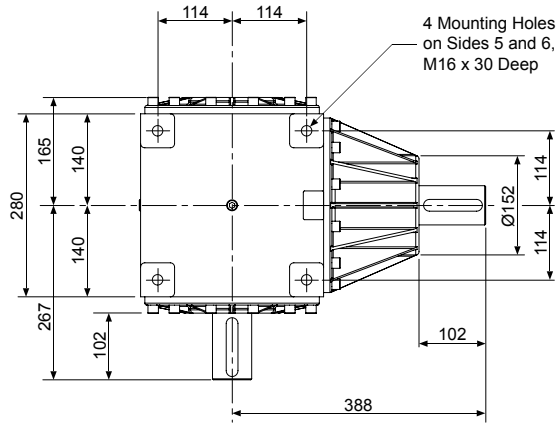
Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options

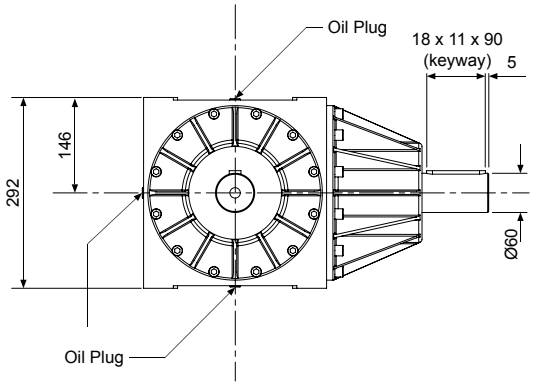
- Special Gear Ratio
- Extended Drive Shaft
- Drives
- Reinforced Shaft OR High Torque
- 90° Breather
- Shaft Cover
- Submersible
- Nuclear Rated
- Low Temperature
- Motor Flange
- Limit Switches
- Light Weight Design
- Breather
- Mounting Feet
- Stainless Steel
- Corrosion Protection
- Food Grade
- High Temperature

2 Way Solid Shaft

40242M



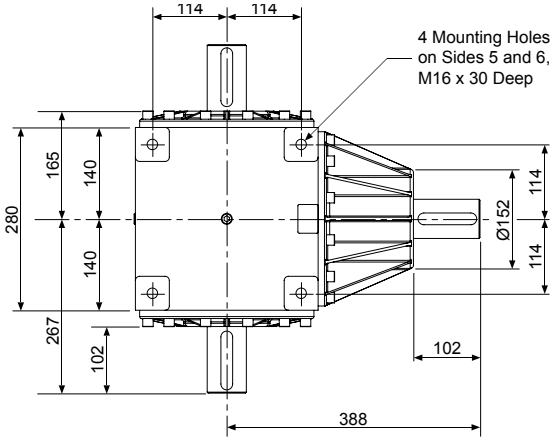
Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



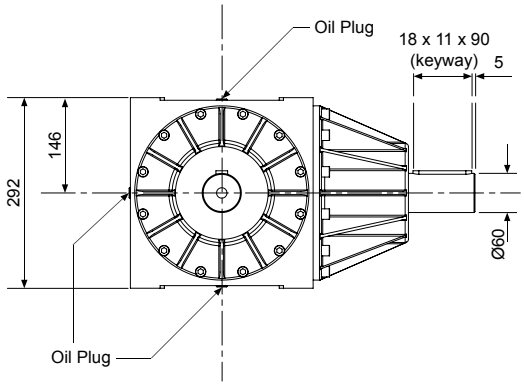
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Solid Shaft

40342M



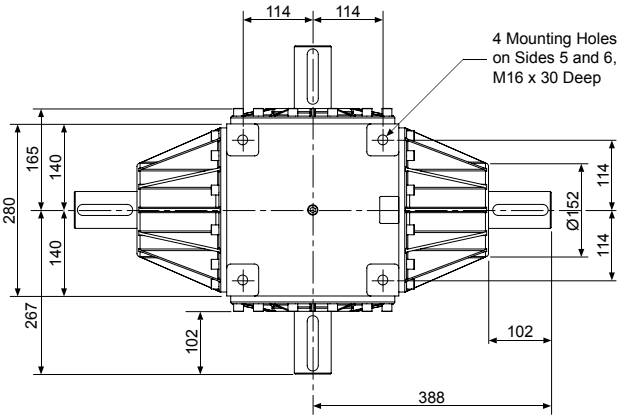
Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



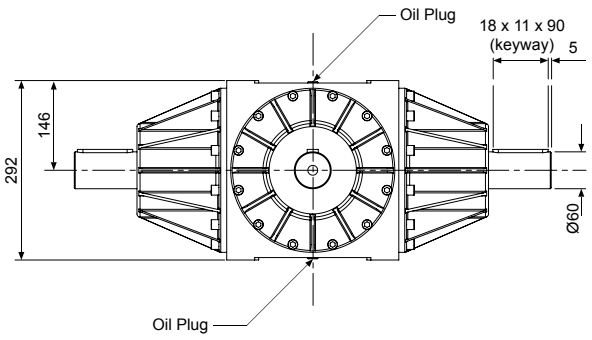
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Solid Shaft

40742M



Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

Series 40		
Torque (Nm)	Nominal#1	1353
	Max Running#2	3088
	Max Start-Up	4632
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	90
Backlash	arcmin	7 to 10
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	3.27
	Pints	5.75
Weight (kg)	2 Way - 1:1 & 1.5:1	112
	2 Way - 2:1 +	126.5
	3 Way - 1:1 & 1.5:1	116
	3 Way - 2:1 +	131

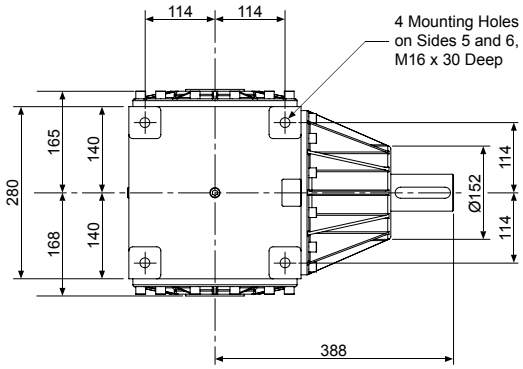
Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options

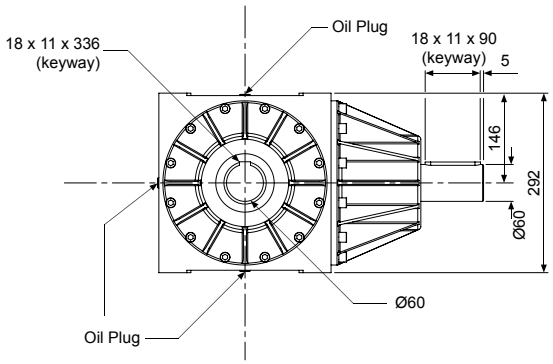
- Special Gear Ratio
- Motor Flange
- Extended Drive Shaft
- Limit Switches
- Drives
- Light Weight Design
- Reinforced Shaft OR High Torque
- Breather
- 90° Breather
- Mounting Feet
- Shaft Cover
- Stainless Steel
- Submersible
- Corrosion Protection
- Nuclear Rated
- Food Grade
- Low Temperature
- High Temperature

2 Way Hollow Shaft

40K41M



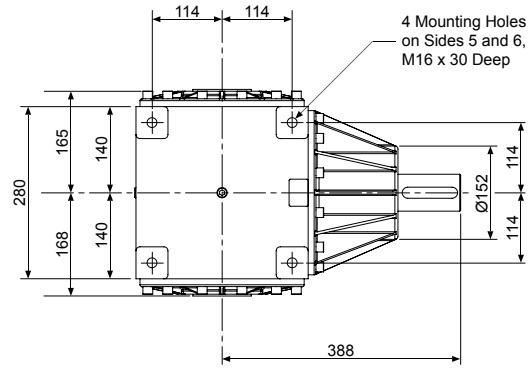
Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



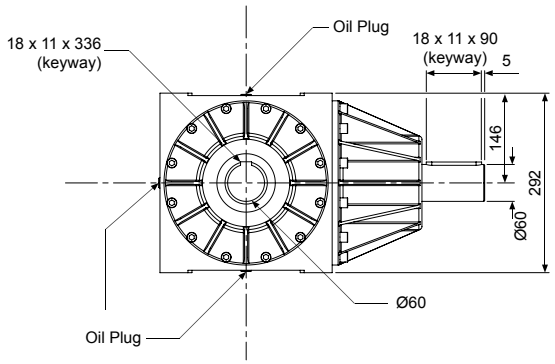
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Hollow Shaft

40041M



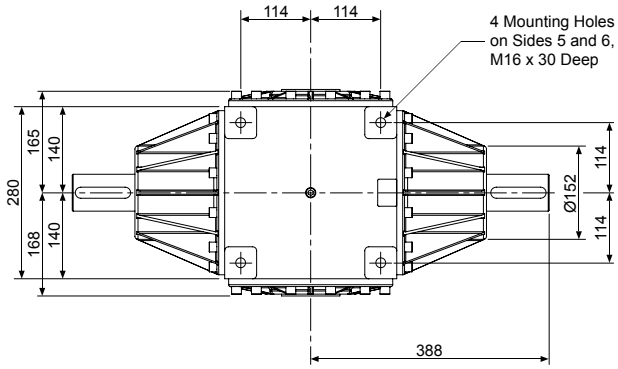
Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



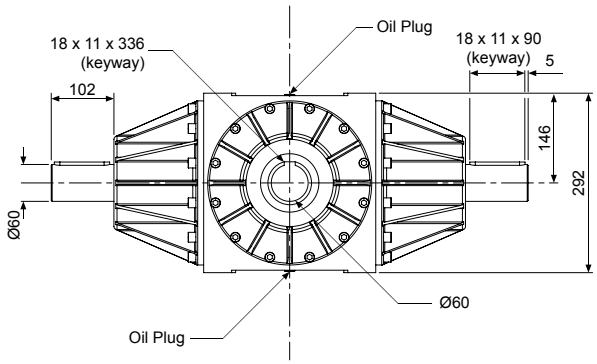
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Hollow Shaft

40J41M



Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

Series 42		
Torque (Nm)	Nominal#1	6195
	Max Running#2	7000
	Max Start-Up	10500
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	190
Backlash	arcmin	7 to 10
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	7
	Pints	12.3
Weight (kg)	2 Way - 1:1 & 1.5:1	190
	3 Way - 1:1 & 1.5:1	197

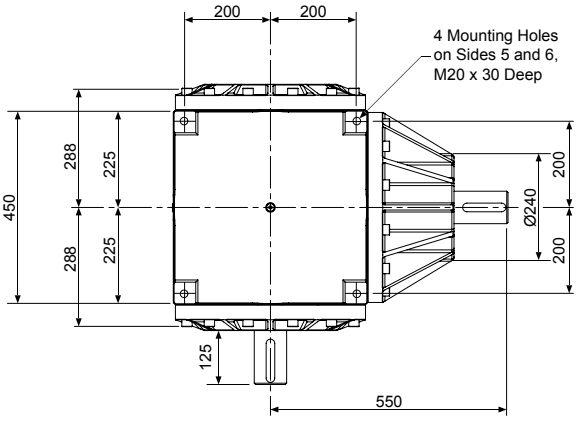
Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options

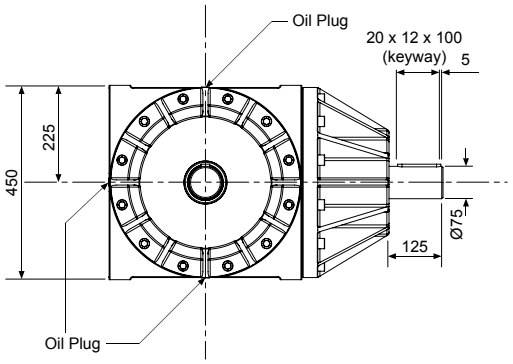
- Special Gear Ratio
- Motor Flange
- Extended Drive Shaft
- Limit Switches
- Drives
- Light Weight Design
- Reinforced Shaft OR High Torque
- Breather
- 90° Breather
- Mounting Feet
- Shaft Cover
- Stainless Steel
- Submersible
- Corrosion Protection
- Nuclear Rated
- Food Grade
- Low Temperature
- High Temperature

2 Way Soild Shaft

42241M



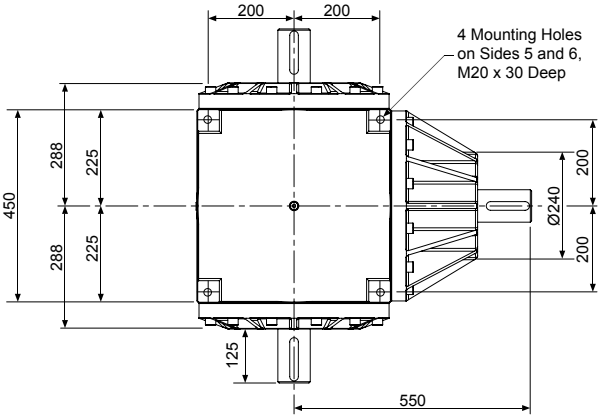
Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



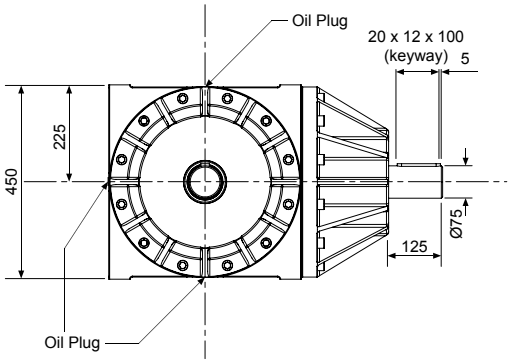
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Soild Shaft

42341M



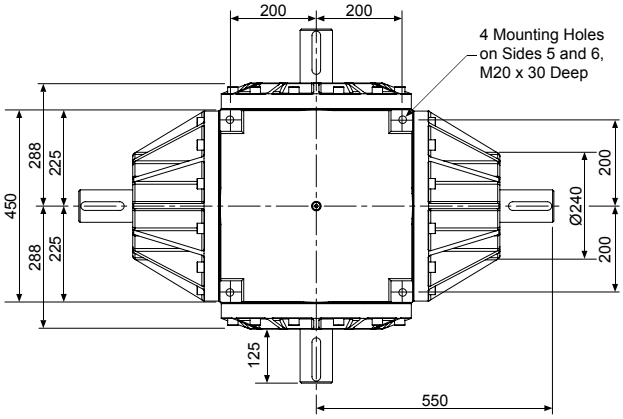
Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



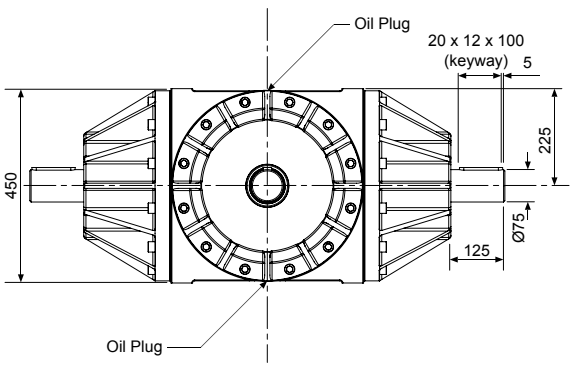
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Soild Shaft

42741M



Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

Series 42		
Torque (Nm)	Nominal#1	6195
	Max Running#2	7000
	Max Start-Up	10500
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	190
Backlash	arcmin	7 to 10
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	7
	Pints	12.3
Weight (kg)	2 Way - 2:1 +	215
	3 Way - 2:1 +	223

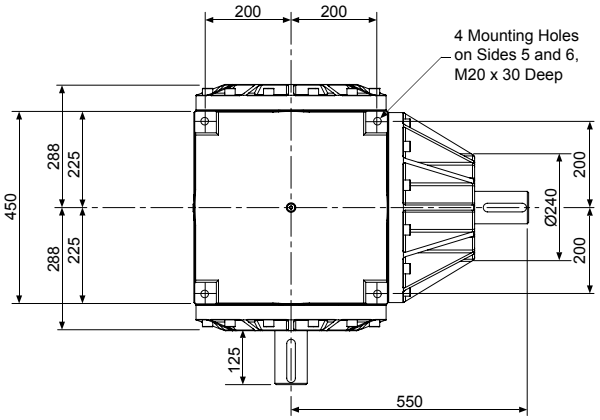
Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options

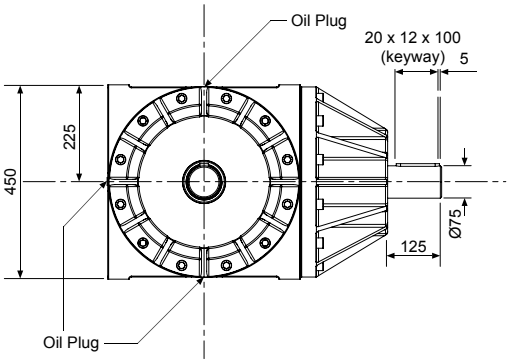
- Special Gear Ratio
- Motor Flange
- Extended Drive Shaft
- Limit Switches
- Drives
- Light Weight Design
- Reinforced Shaft OR High Torque
- Breather
- 90° Breather
- Mounting Feet
- Shaft Cover
- Stainless Steel
- Submersible
- Corrosion Protection
- Nuclear Rated
- Food Grade
- Low Temperature
- High Temperature

2 Way Solid Shaft

42242M



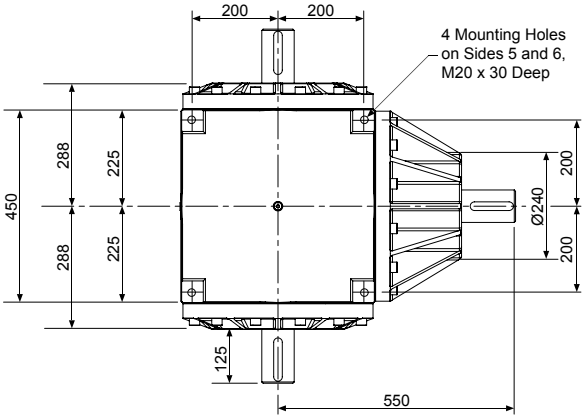
Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



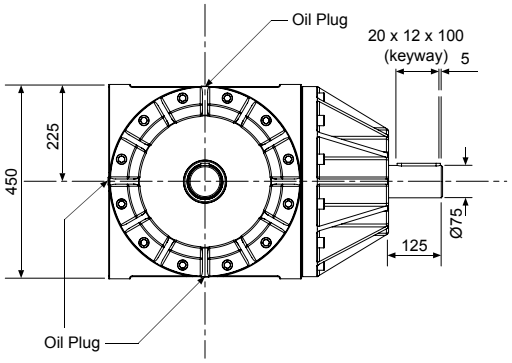
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Solid Shaft

42342M



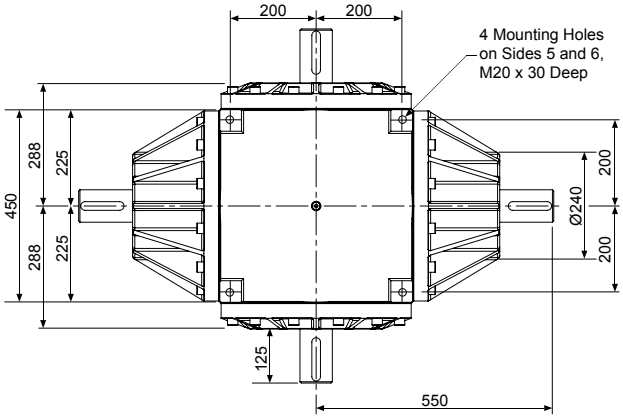
Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



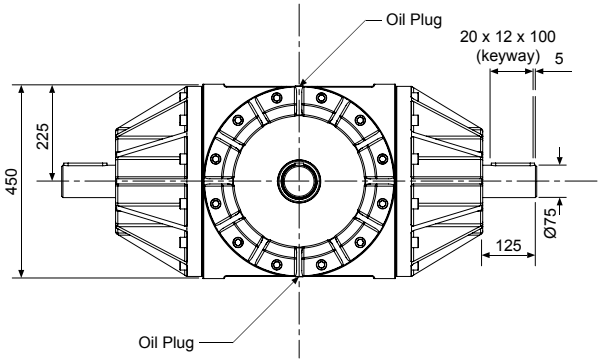
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Solid Shaft

42742M



Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Performance

Series 42		
Torque (Nm)	Nominal#1	6195
	Max Running#2	7000
	Max Start-Up	10500
Input Speed	Max (rpm)	3000
Thermal Limit	Power (kW)	190
Backlash	arcmin	7 to 10
Efficiency	(%)	95% - 98%
Service Life	(hours)	>10000
Housing Material		SG Iron
Oil Quantity	Litres	7
	Pints	12.3
Weight (kg)	2 Way - 1:1 & 1.5:1	190
	2 Way - 2:1 +	215
	3 Way - 1:1 & 1.5:1	197
	3 Way - 2:1 +	223

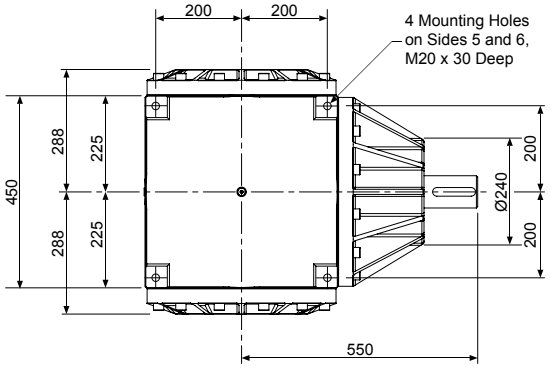
Notes:
#1 Nominal torque values at running speeds of 1500 rpm
#2 Maximum running torque value at speed of 10 rpm
Full detailed performance for each unit refer to page 12 & 13

Accessories & Options

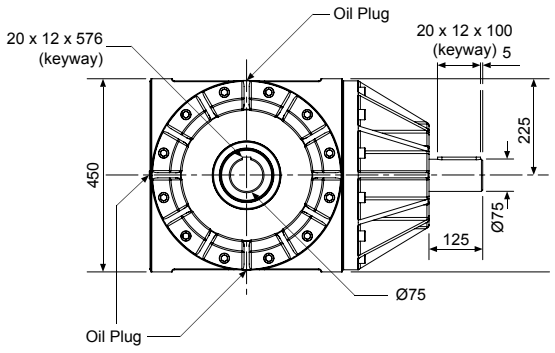
- Special Gear Ratio
- Motor Flange
- Extended Drive Shaft
- Limit Switches
- Drives
- Light Weight Design
- Reinforced Shaft OR High Torque
- Breather
- 90° Breather
- Mounting Feet
- Shaft Cover
- Stainless Steel
- Submersible
- Corrosion Protection
- Nuclear Rated
- Food Grade
- Low Temperature
- High Temperature

2 Way Hollow Shaft

42K41M



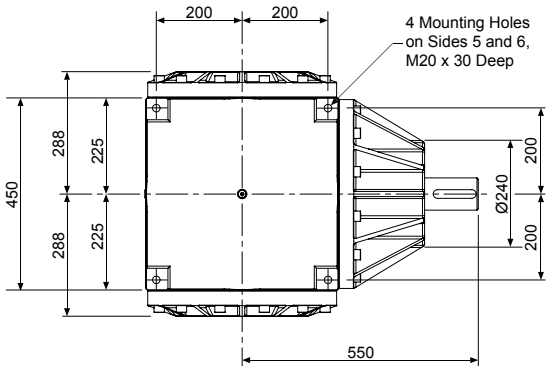
Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



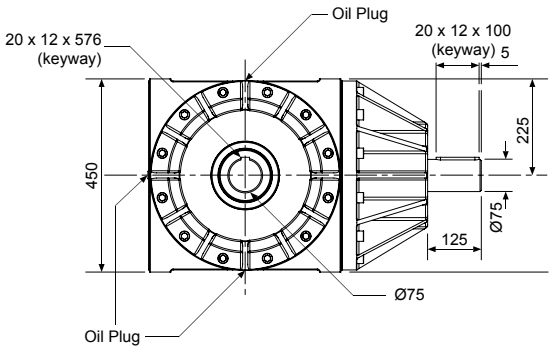
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

3 Way Hollow Shaft

42041M



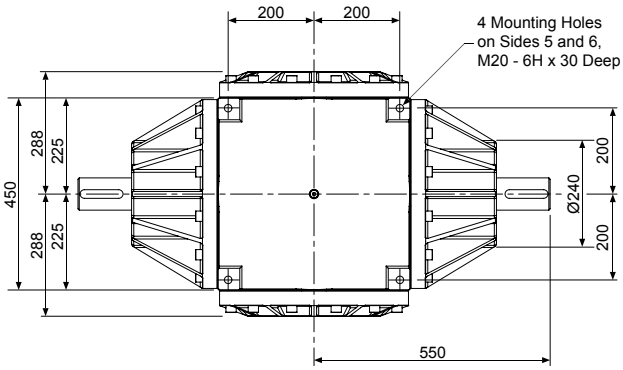
Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



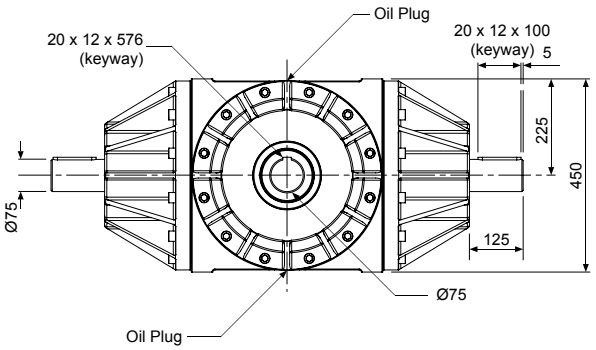
Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

4 Way Hollow Shaft

42J41M

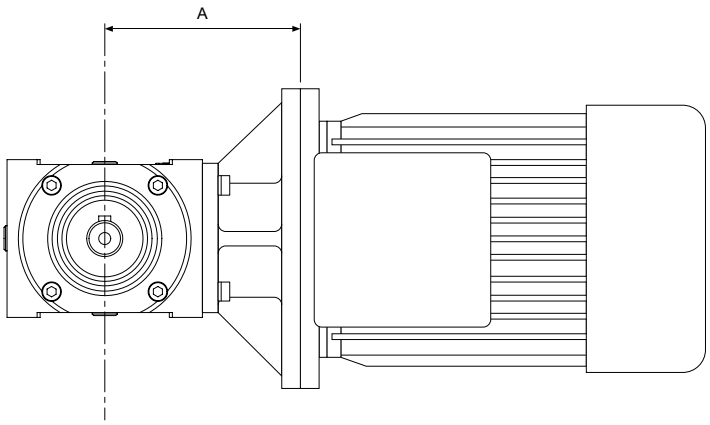


Tapped hole in end of each solid drive shaft - M16 x 38mm Deep



Notes:
1. All dimensions in mm unless otherwise stated
2. Dimensions subject to chane without notice

Motor Adapters



Motor frame Size B5 Flange	Gear unit Series	Gear Ratio	Dimension 'A'	Gear Unit Prefix for Product Code
71	35	All	115	A
80	35	All	115	B
90	37	All	130	C
100	37	1:1 & 1.5:1	130	D
100	37	2:1	140	D
112	37	1:1 & 1.5:1	130	D
112	37	2:1	140	D
112	38	All	190	D
132	38	All	190	E
132	39	All	220	E
160	38	1:1, 1.5:1 & 2:1	190	F
160	38	3:1 & 4:1	210	F
160	39	1:1, 1.5:1 & 2:1	220	F
160	39	3:1 & 4:1	240	F
180	39	1:1, 1.5:1 & 2:1	220	G
180	39	3:1 & 4:1	240	G
180	40	All	280	G
200	40	All	280	H
225 : 2 Pole	40	All	280	J
225 : 4-8 Pole	40	All	310	K
250 : 2 Pole	40	All	310	L

Notes:
1. All standard motor adapters use a B5 IEC flange.
2. All Flange dimensions conform to standard IEC electric motor details.
3. NEMA flanges available on request.

Optional Features

Extended Drive Shafts

For each gearbox size the drive shafts (input or output) can be extended in length for solid shaft or hollow shaft designs.

For an application these designs can:

- Eliminate the need for extra drives shafts.
- Reduce the number of couplings.
- Reduce the overall installation cost.
- Reduce the associated maintenance and spare parts inventory and cost.
- Allow the machine design to be fully optimised.

Stainless Steel Bevel Gearboxes

Stainless steel gearboxes are recommended for use in applications which require one or more of the following properties:

- High corrosion resistance.
- Hygienic for food processing.
- Good chemical resistance.
- Resistance to fire & high temperatures.
- Strength at low temperatures.
- Stainless steel has good recycling options.
- Easy to clean surfaces.
- Non-magnetic options available.

All of which makes stainless steel gearboxes ideally suitable for industries such as marine, paper, chemical, food, beverage, nuclear, oil and gas.

Submersible Gearboxes

All the Range-N bevel gearboxes are available with submersible designs. Each submersible variant design is tailored exactly to the customer application.

Submersible design options include:

- Fresh water or sea water applications.
- Reinforced sealing.
- Designs for depths up to 3000m. Deeper on request.
- Pressure compensation connections.
- Flooded housing design.
- High and/or low temperature rating.
- ROV (Remote Operated Vehicle) connections.
- Reinforced drive shafts.
- Shock load resistant designs.
- Vibration resistant designs.
- Special paint finish.
- Special material grades.

Design Possibilities / Designed For You

The Range-N bevel gearboxes are provided as a range of standard bevel gearboxes and as a range of engineered gearboxes. Each gearbox design can be altered to suit exact application requirements such as:

- Low weight designs.
- Long or short drive shafts.
- Keyless shafts.
- Shafts with threaded sections.
- Alternative shaft profiles e.g. hexagonal.
- Nuclear rated gearboxes.
- Food & beverage processing grade gearboxes.
- Special shaft sealing.
- Integrated or bolt on base flange.
- Extra mounting holes.
- Motor adapters for servo, hydraulic or air motors.
- Integrated limit switches.
- Protective shaft covers.
- High & low temperature rated designs.
- Alternative housing designs e.g. curved.
- High corrosion & chemical resistant designs.

Use Neeter Drive engineering technology to bring your concept to reality.

Single Face Screw Jacks

- Metric Machine Screw Jacks 10kN to 3500kN
- Metric Ball Screw Jacks 10kN to 500kN
- Metric Stainless Steel Screw Jacks 10kN to 500kN
- Imperial (inch) Machine Screw Jacks 1/4Ton to 250Ton
- Imperial (inch) Ball Screw Jacks 1/2Ton to 50Ton
- Imperial (inch) Stainless Steel Screw Jacks 2Ton to 100Ton
- Special Designs Available

EMA Linear Actuators

- Machine Screw & Ball Screw
- Low load, Medium Duty, High Speed
- Dynamic Load Ratings up to 10kN
- Linear Speeds up to 5500 mm/min
- 3-phase AC, 1-phase AC, and DC types
- Special Designs Available

Rolaram Linear Actuators

- Ball Screw & Roller Screw
- High load, High Duty, High Speed
- Very High Accuracy
- Dynamic Load Ratings up to 400kN
- Linear Speeds up to 7000 mm/min
- 3-phase AC, 1-phase AC, and DC types
- Special Designs Available

Spiracon Roller Screws

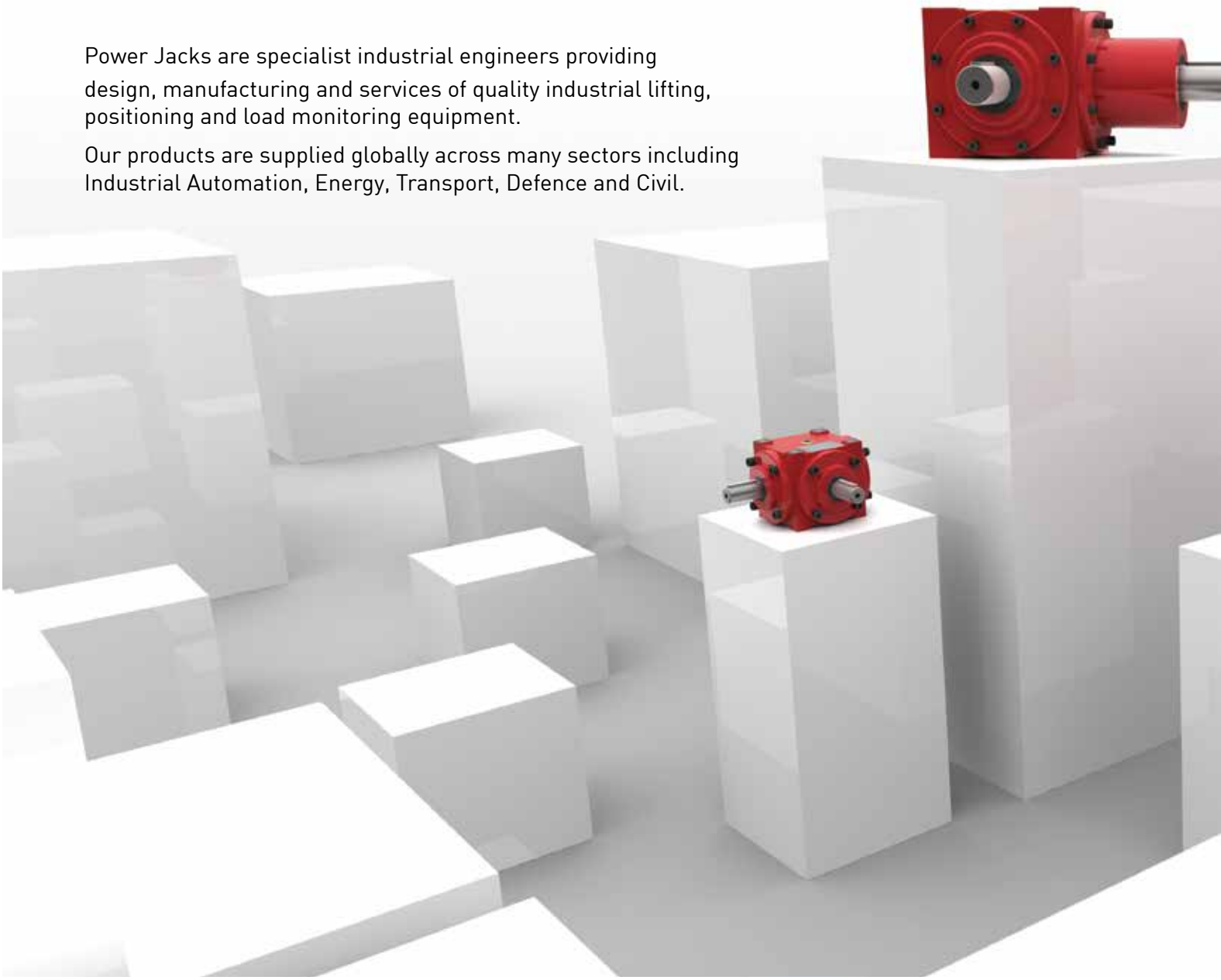
- High Dynamic Loads up to 1200kN
- High Efficiency
- High Positional Accuracy
- Long Life
- Low Maintenance
- Low Noise
- Robust Design for Harsh Environments
- Special Designs Available

POWER JACKS

Lifting & Positioning Solutions

Power Jacks are specialist industrial engineers providing design, manufacturing and services of quality industrial lifting, positioning and load monitoring equipment.

Our products are supplied globally across many sectors including Industrial Automation, Energy, Transport, Defence and Civil.



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