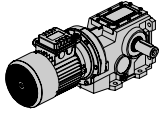




MAINTENANCE AND USE
INSTRUCTIONS FOR GEAR
REDUCERS AND GEARMOTORS
SERIES:

PB - IB - CB





Warehouse storage

Protect external parts of the reducer from damage due to accidental knocks or falls when transporting the unit.

If the unit is stored in a hostile atmosphere or for long periods (2-4 months), apply protective and waterproofing products to avoid deterioration of shafts and rubber parts.

Before starting up the unit:

- Check the data shown on the name plate of the reducer and/or the electric motor
- Check for any lubricant leaks
- Remove any traces of dirt from the shaft and from the areas around the oil seal
- If the reducer is stored for long periods (4-6 months or more), make sure the oil seals are in contact with the reducer's internal lubricant. If the oil seal cannot contact the reducer's lubricant, change the oil seal before use. The seal's rubber coating may stick to the shaft or may lose the elasticity necessary to function properly.

Installation

The typical cause of damage and downtime for reducers is improper installation. Careful selection of the drive type and mounting position can often avoid the need for protection of sensitive areas from oil leaks, particularly underneath the unit.

- Avoid vibration by mounting the reducer securely to the application.
- Whenever possible, protect the reducer against solar radiation and bad weather.
- Ensure the motor cools correctly by allowing air to flow freely on the motor's fan side.
- When ambient temperatures are below -5°C (23°F) or above 40°C (104°F), contact Motovario for assistance.
- If the motor is to be started very often under load, use a heat probe inserted into the motor.
- Pulleys, sprockets, couplings, shafts and other output devices must be securely mounted on the solid or hollow shafts. Use threaded holes or similar locking methods to ensure correct operation without risking damage to the bearings or external reducer parts. (fig.1).
- Lubricate all surfaces in contact to avoid seizure or oxidation.
- Pulleys must be mounted on the main shaft as close as possible to the shoulder to minimize radial load on the bearings (fig. 2).

Installation

Example of a pulley mounted correctly on the slow shaft of a reduction unit

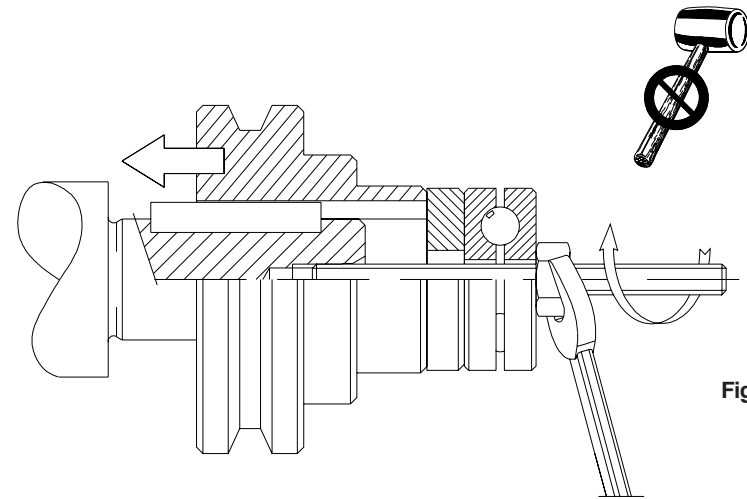


Fig. 1

Correct and incorrect examples of pulleys mounted on the main shaft of a reduction unit.

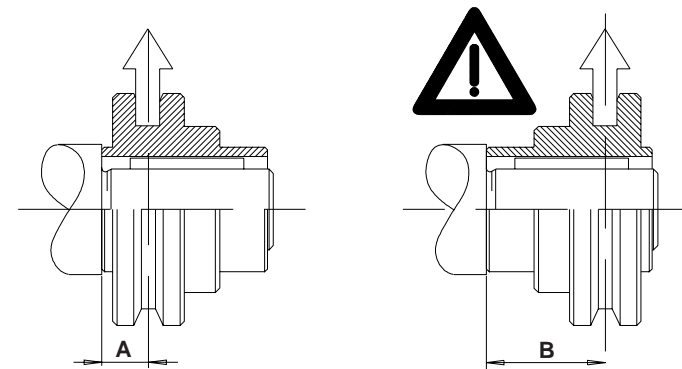
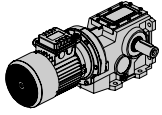


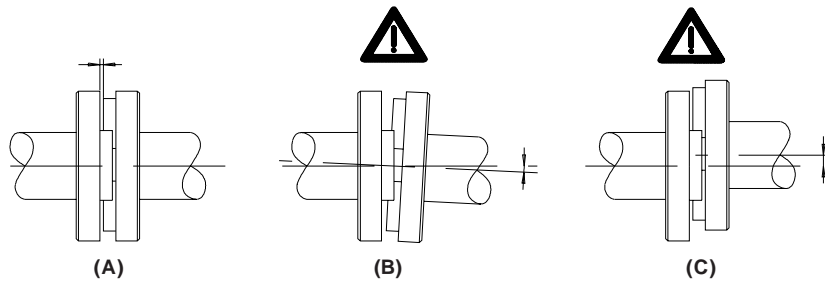
Fig. 2



Installation

Correct and incorrect examples of coupling connections.

Fig. 3



- Ensure proper alignment when connecting couplings to minimize radial load on the bearings (fig.3).
- Rubber parts (seals and o-rings) and the holes on the breather plugs (if applicable) must not be painted.
- Units equipped with oil plugs are shipped with closed plugs to prevent leaks during shipping. Replace the closed plug with the breather plug before use.

Mounting the motor on the pam B5 flange

Check that the tolerance of the motor shaft and the motor flange comply with at least one normal class of quality.

Carefully clean off any trace of dirt or paint from the shaft, the centering pilot and the face of the flange.

Do not force reducers to fit into motors. If force is necessary, check the tolerance of the motor key and ensure that it is correctly fitted. Apply assembly grease or anti-seize lubricant to the shaft in order to prevent oxidation or seizure caused by contact.

Good quality motors should be used to ensure the unit works correctly and without vibration or noise.

Check the direction of rotation of the reducer output shaft before fitting the unit to the application. Use the sight glass, if present, to check that the lubricant reaches the correct level required for the mounting position used.

Starting up

The unit should be started up gradually. Do not immediately apply the maximum application load. Start-up slowly whenever possible. Look for and correct any malfunction that may be caused by incorrect mounting during start-up.

Run-in is not essential for Motovario SmartBox units to function properly. The internal components are protected during start-up because of the construction technique for gears and castings, the extreme cleanliness of internal parts, and the excellent quality of the lubricants used.

Servicing

The precision finish of SmartBox components ensures that the unit will work correctly with minimum service.

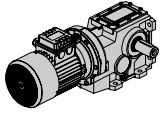
- Periodically check that the exterior of the assembly is clean, especially in the cooling areas
- Periodically check to see if there are any leaks, especially in the areas around the oil seals.
- Assemblies that are lubricated for life do not have any oil plugs and do not require any special maintenance.
- Assemblies not lubricated for life require an oil change at 8,000-10,000 hours of use. The timing of the oil change depends on the type of environment and application of the reducer.
- Keep the breather plug clean and free of obstructions.
- Check for the correct level of the lubricant through the sight glass (if applicable).
- Always use the same type of lubricant that is already in the reducer (or a compatible lubricant) if it becomes necessary to top-off the lubrication. If the type of lubrication is unknown or in doubt, empty the oil from the reducer completely and wash out the unit to remove any residue before refilling with new oil.
- When changing the oil, empty the oil from the reducer completely and wash out the unit to remove any residue before refilling with new oil.

Troubleshooting

If any problems should arise when starting the unit or during its first few hours of operation, contact Motovario for assistance.

The following table shows a series of problems with a description of possible remedies. The information given is for reference only. All drives manufactured by Motovario are thoroughly tested and checked before leaving the factory.

Tampering with the assembly without prior authorization from Motovario immediately invalidates the warranty and makes it impossible to ascertain the causes of defect or malfunction.

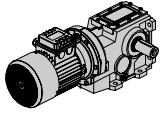


Troubleshooting

PROBLEMS	CAUSES	ACTION (1)	ACTION (2)
<i>The motor does not start.</i>	Problems with power supply. Defective motor. Wrong size of motor.	Check power supply.	Replace electric motor.
<i>Current absorbed by the motor is greater than shown on the data plate.</i>	Wrong size of motor.	Check the application.	Replace the electric motor and, if necessary, the reduction unit.
<i>Temperature of the motor housing is very high.</i>	Defective motor. Wrong size of motor. Incorrect mounting of motor	Check the application.	Replace the electric motor and, if necessary, the reduction unit.
<i>Temperature of the reduction unit housing is very high.</i>	Wrong size of reduction unit. Mounting position does not comply with the order. Incorrect mounting of motor	Check the application.	Correct the working conditions: mounting position and/or lubricant level.
<i>Incorrect rotation speed of the main reducer unit shaft.</i>	Incorrect reduction ratio. Incorrect polarity of motor.	Check reduction ratio. Check polarity of motor.	Replace reduction unit and/or electric motor.
<i>Oil leak from oil seal.</i>	Defective oil seal. Oil seal damaged during shipment. Defective motor shaft.	Replace the oil seal. Repair motor shaft (if possible).	Replace the part or return the assembly to Motovario.
<i>Oil leak from joint.</i>	Flat gasket or O-ring damaged.	Replace damaged gasket or O-ring.	Return the assembly to Motovario.
<i>The main shaft rotates the wrong way.</i>	Incorrect connection of the electric motor.	Swap two phases of the motor supply.	
<i>Intermittent noise from the gears.</i>	Dents in the gear wheels.	No practical problem if the noise has no effect on the application.	Return the assembly to Motovario if there is significant noise when loaded

Troubleshooting

PROBLEMS	CAUSES	ACTION (1)	ACTION (2)
<i>No intermittent noise from the gears.</i>	Dirty inside the gearbox.	No practical problem if the noise has no effect on the application.	Return the assembly to Motovario if there is significant noise when loaded
<i>Noise (whine) from the drive assembly.</i>	Bearings incorrectly adjusted. Gears with mesh errors. Insufficient lubricant.	Check correct quantity of lubricant.	Return the assembly to Motovario.
<i>Electric motor vibrates.</i>	Measurement of the assembly coupling.	Check geometric tolerance of flange on electric motor. Check tolerance and geometry of key on motor shaft.	Replace electric motor.



Critical applications

Performance ratings correspond to mounting position B3 or similar, i.e. when the first stage is not entirely immersed in oil. For other mounting positions and/or particular input speeds, refer to the tables that highlight different critical situations for each size reducer.

It is also necessary to consider the following applications by contacting Motovario Technical Service:

- Use as a speed increaser
- Use that could be hazardous for people if the reducer fails
- Applications with especially high inertia
- Use as a lifting winch
- Applications with high dynamic strain on the housing of the reducer
- In places with ambient temperatures below -5°C or over 40°C (below 23°F or over 104°F).
- Use in chemically aggressive or caustic environments
- Use in salty environments
- Use in radioactive environments
- Use in environments with pressures other than standard atmospheric pressure
- Mounting positions not described in this catalog

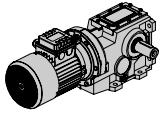
Avoid applications where even partial immersion of the reducer is required.

The maximum torque that the gear reducer can support must not exceed two times the nominal torque (when service factor = 1.0) stated in the performance tables. Maximum torque considers momentary overloads at full load start-up, braking, shocks or other causes, particularly dynamic shock.

B	080	100	125	140	150
input speed: 2000 - 3000 RPM	-	-	B	B	B
mounting position: V6	B	B	B	B	B
input speed: >3000 RPM	B	B	B	A	A
shrink disk mounting position B6 - B7	B	B	B	B	B

A Application not recommended

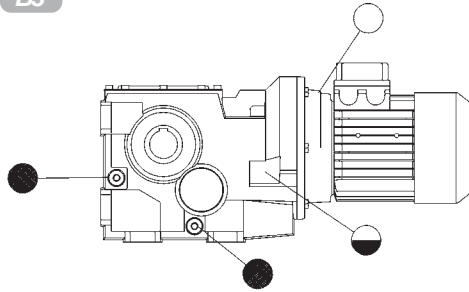
B Contact Motovario for assistance



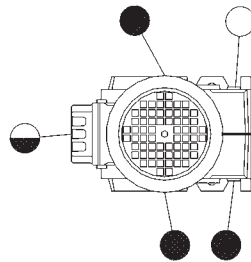
Mounting position

083-153

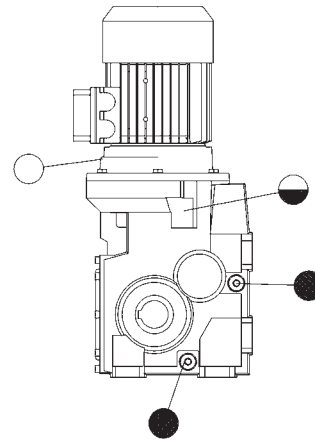
B3



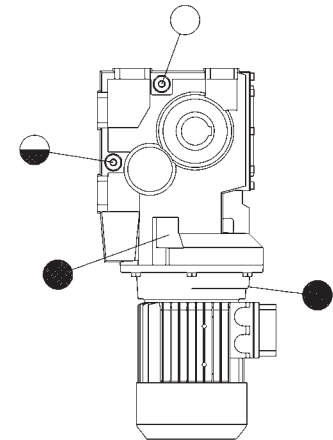
B6



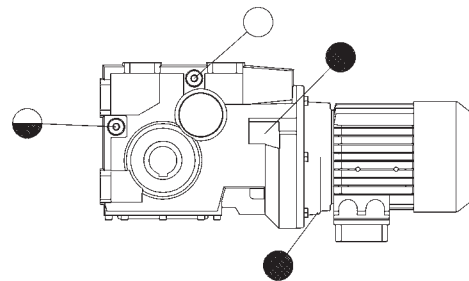
V5



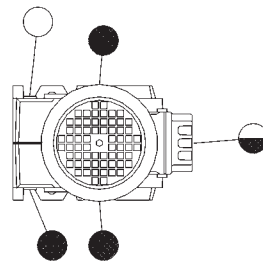
V6



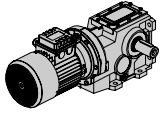
B8



B7



- Oil fill / breather plug
- ◐ Oil level plug
- Oil drain plug



Lubrication (B-IB-CB)

Applications operating in temperatures below -30°C (-22°F) or over 60°C (140°F), special oil seals must be used.

Applications operating in temperatures under 0°C (32°F) have special needs:

- o Motors must be suitable for operation at the ambient temperature.
- o Colder temperatures require more starting torque from the motor. The motor power must be adequate to exceed the required starting torque.
- o Cast iron becomes fragile and brittle in temperatures under -15°C (5°F).

The viscosity of the reducer lubrication is higher at start-up. Whenever possible, run the reducer under no load for a few minutes to decrease oil viscosity.

Reducer maintenance should be performed after approximately 10,000 hours, including a change of the reducer's oil. The type of service and the environment of the application will determine the maintenance period.

Units supplied without oil plugs are lubricated for life and need no servicing.

All Motovario SmartBox™ reducers are supplied with lubricant. The mounting position of the reducers must be specified when ordering.

Motovario SmartBox™ maintenance-free reducers:

- o S052
- o S053
- o S062
- o S063

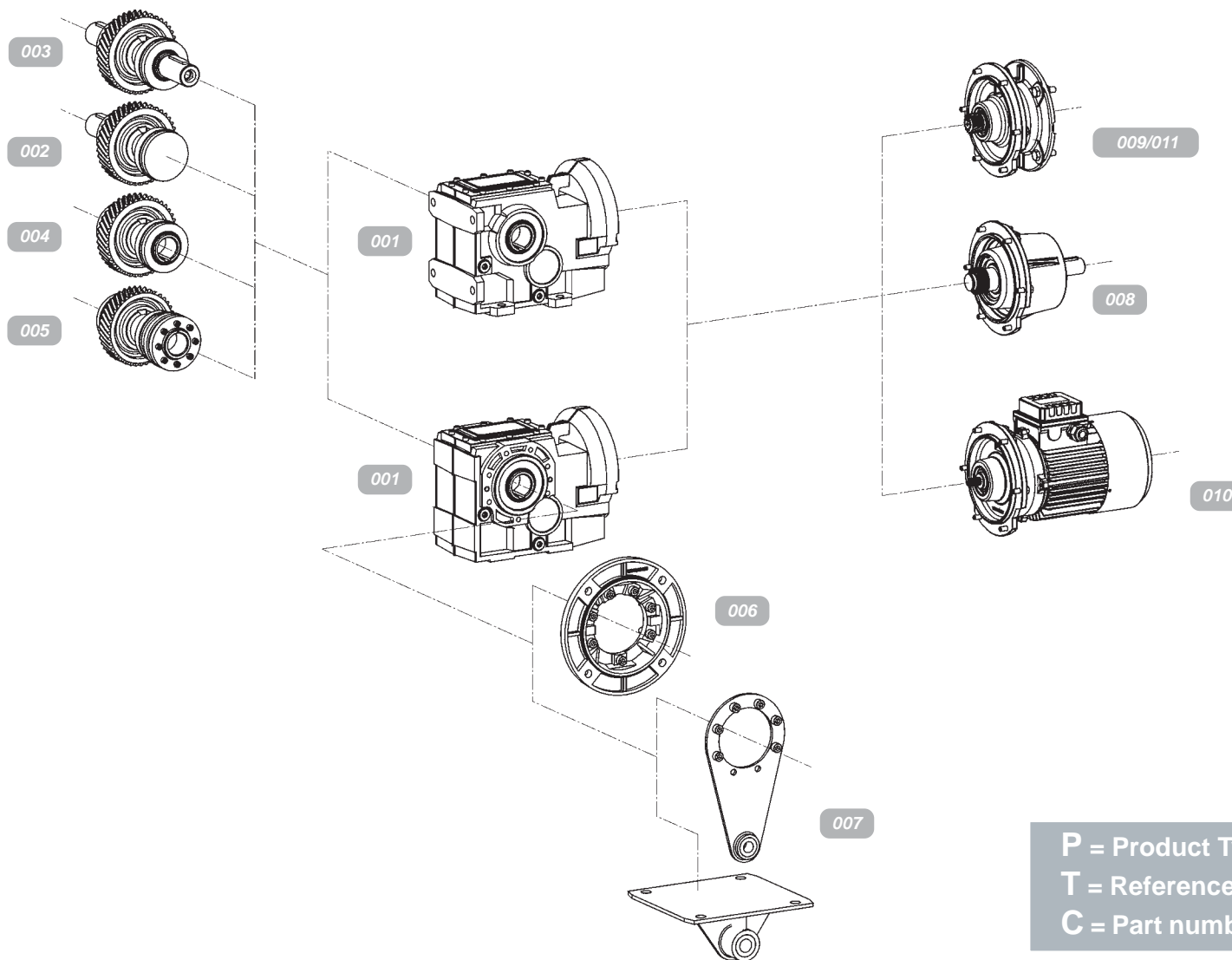
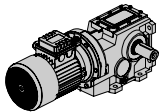
Lubrication (B-IB-CB)

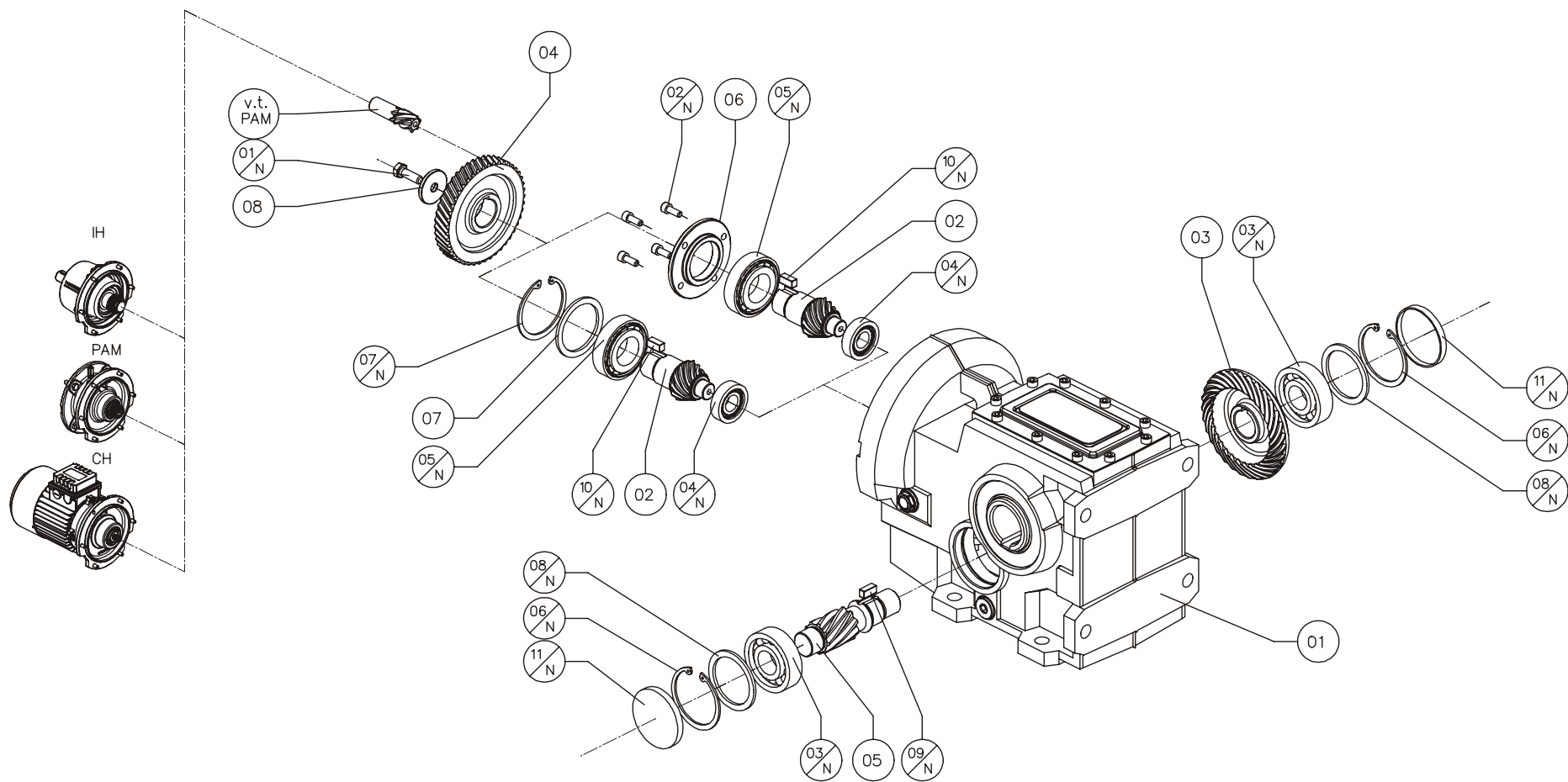
T°C ISO VG...	(-5) ÷ (+40) ISO VG220	(-15) ÷ (+25) ISO VG150
AGIP	BLASIA 220	BLASIA 150
SHELL	OMALA OIL220	OMALA OIL150
ESSO	SPARTAN EP220	SPARTAN EP150
MOBIL	MOBILGEAR 630	MOBILGEAR 629
CASTROL	ALPHA MAX 220	ALPHA MAX 150
BP	ENERGOL GR-XP220	ENERGOL GR-XP150

Mineral oil

B - CB	083	103	123	143	153
B3	2.4	3.6	6	11.5	19
B8	3	4.3	8.2	15.5	17.5
B6-B7	2.8	4	7.6	12	19
V5	3.9	7.2	10.3	19	40
V6	2.9	4.3	7	11.5	16.5

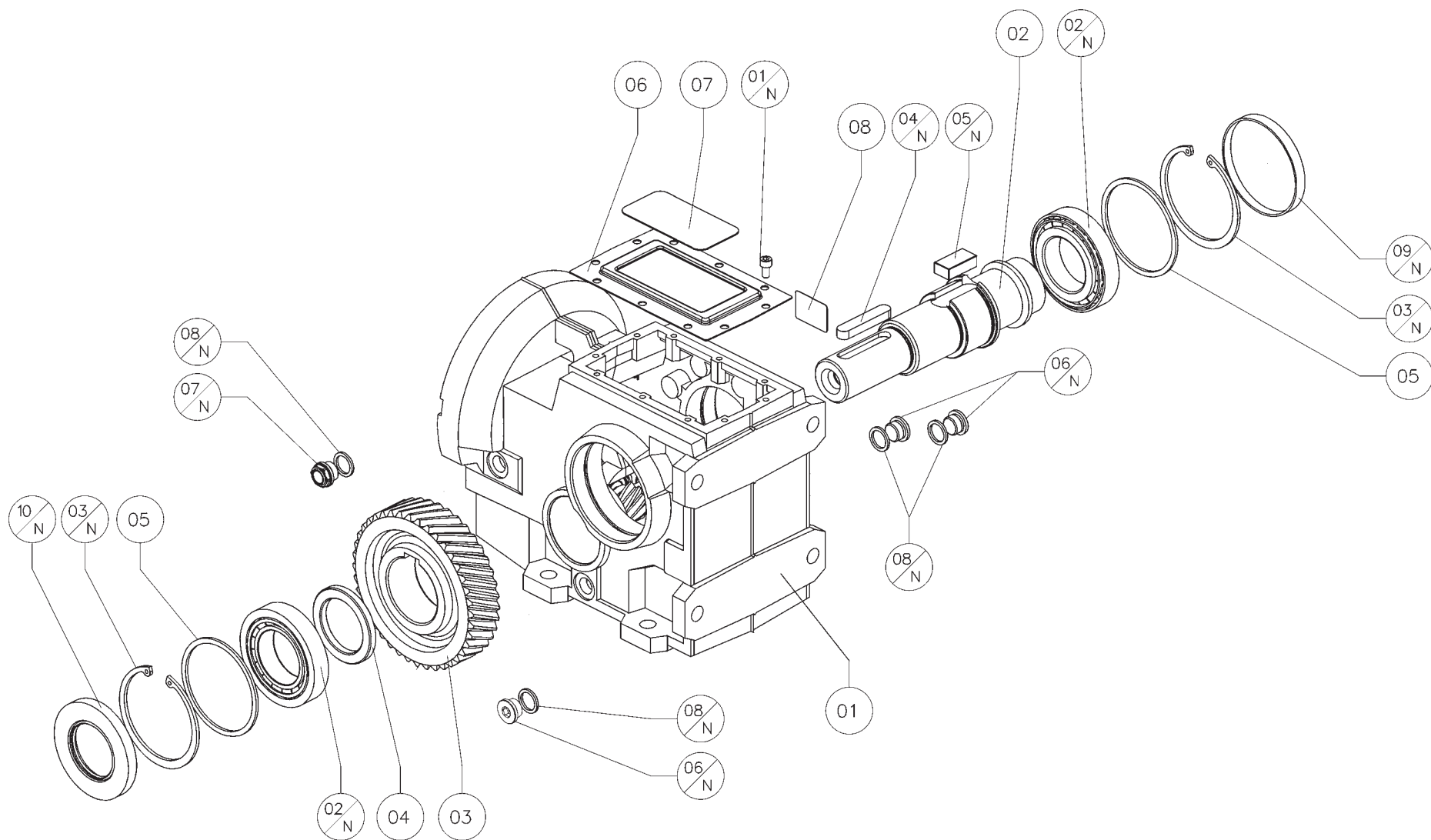
- Quantity of oil in litres





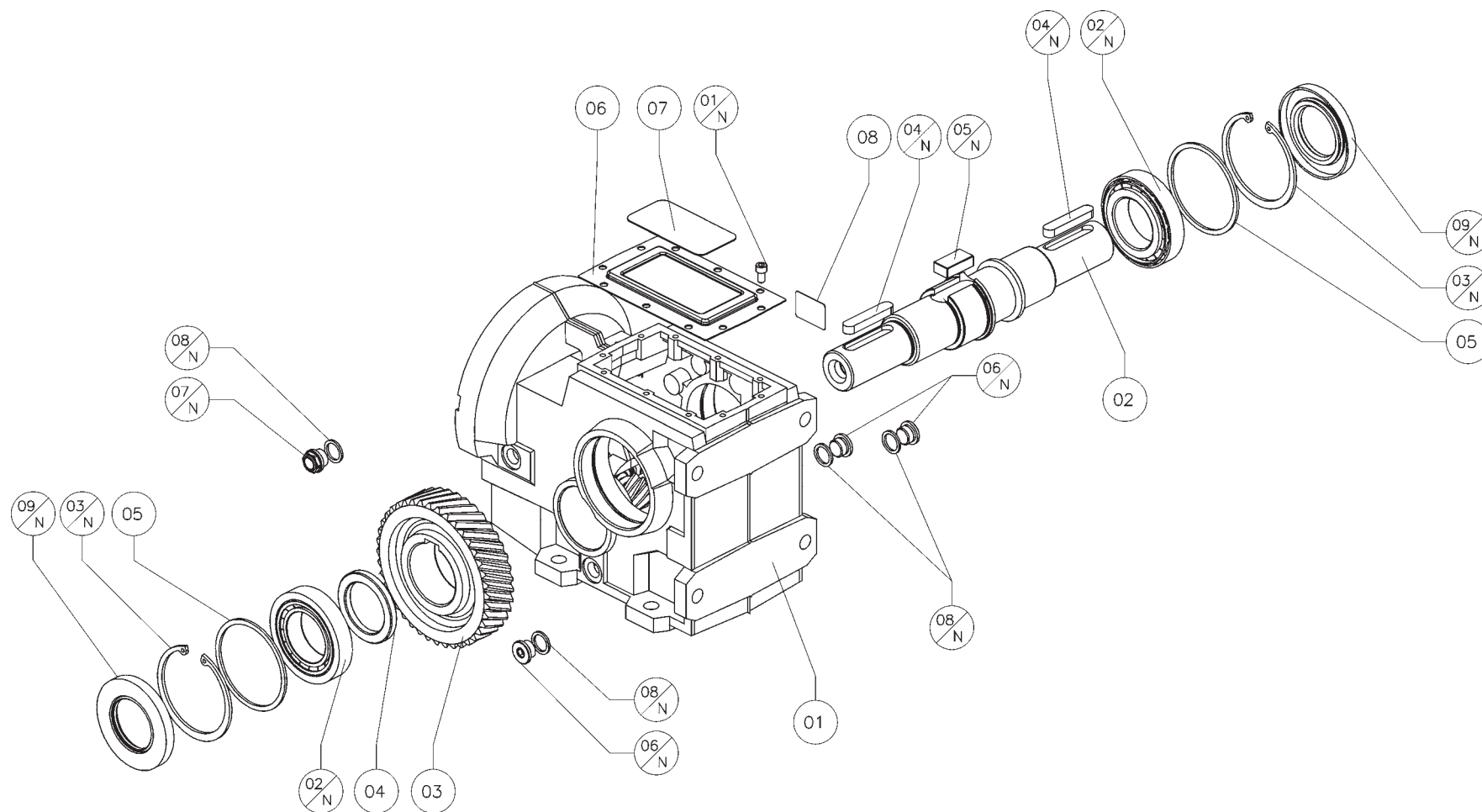
P	T	C	Built	080	100	125	140	150
B	001	1	Casing with foot	B.080.01	B.100.01	B.125.01	B.140.01	B.150.01
B	001	1	Casing with flange	B.080.02	B.100.02	B.125.02	-	-
B	001	1	Casing universal	B.080.09	B.100.09	B.125.09	-	-
B	001	2	Bevel pinion	B.080.23	B.100.23	B.125.23	B.140.23	B.150.23
B	001	3	Bevel gear	B.080.24	B.100.24	B.125.24	B.140.24	B.150.24
B	001	4	Gear	H.060.24	H.060.24	H.080.24	H.100.24	H.125.24
B	001	5	Pinion	H.060.28	H.080.28	H.100.28	H.125.28	H.140.28
B	001	6	Bearing bush	-	-	-	B.140.65	B.150.65
B	001	7	Bearing spacer	ADS 62x50x3	ADS 72x56x3	8.063.32	-	-
B	001	8	Retaining ring	0.080.34	0.080.34	8.125.34	8.125.34	0.160.34
B	PAM	-	Pinion					

P	T	C	Commercial	080		100		125		140		150	
B	001	1/N	Screw DIN 931	M8x25	1	M8x25	1	M12x30	1	M12x35	1	M16x40	1
B	001	2/N	Screw DIN 912	-	-	-	-	-	-	M8x20	4	M8x20	6
B	001	3/N	Bearing	6305	2	30206	2	32207	2	31308	2	30309	2
B	001	4/N	Bearing	30203	1	32004x	1	32205B	1	31305	1	32206B	1
B	001	5/N	Bearing	30206	1	30207	1	30208	1	32210	1	30212	1
B	001	6/N	Circlip DIN 472	62	2	62	2	72	2	90	2	100	2
B	001	7/N	Circlip DIN 472	62	1	72	1	80	1	-	-	-	-
B	001	8/N	Bearing spacer	ADS 62x50x3	2	ADS 62x50x3	2	ADS 72x56x3	2	ADS 90x70x3.5	2	ADS 100x80x3.5	2
B	001	9/N	Key	B 8x7x18	1	B 10x8x25	1	B 10x8x30	1	B 14x9x40	1	B 14x9x45	1
B	001	10/N	Key	B 8x7x18	1	B 8x7x18	1	B 10x8x25	1	B 10x8x30	1	B 14x9x40	1
B	001	11/N	Cap	RCA 62-7	2	RCA 62-7	2	RCA 72-10	2	RCA 90-10	2	RCA 100-10	2



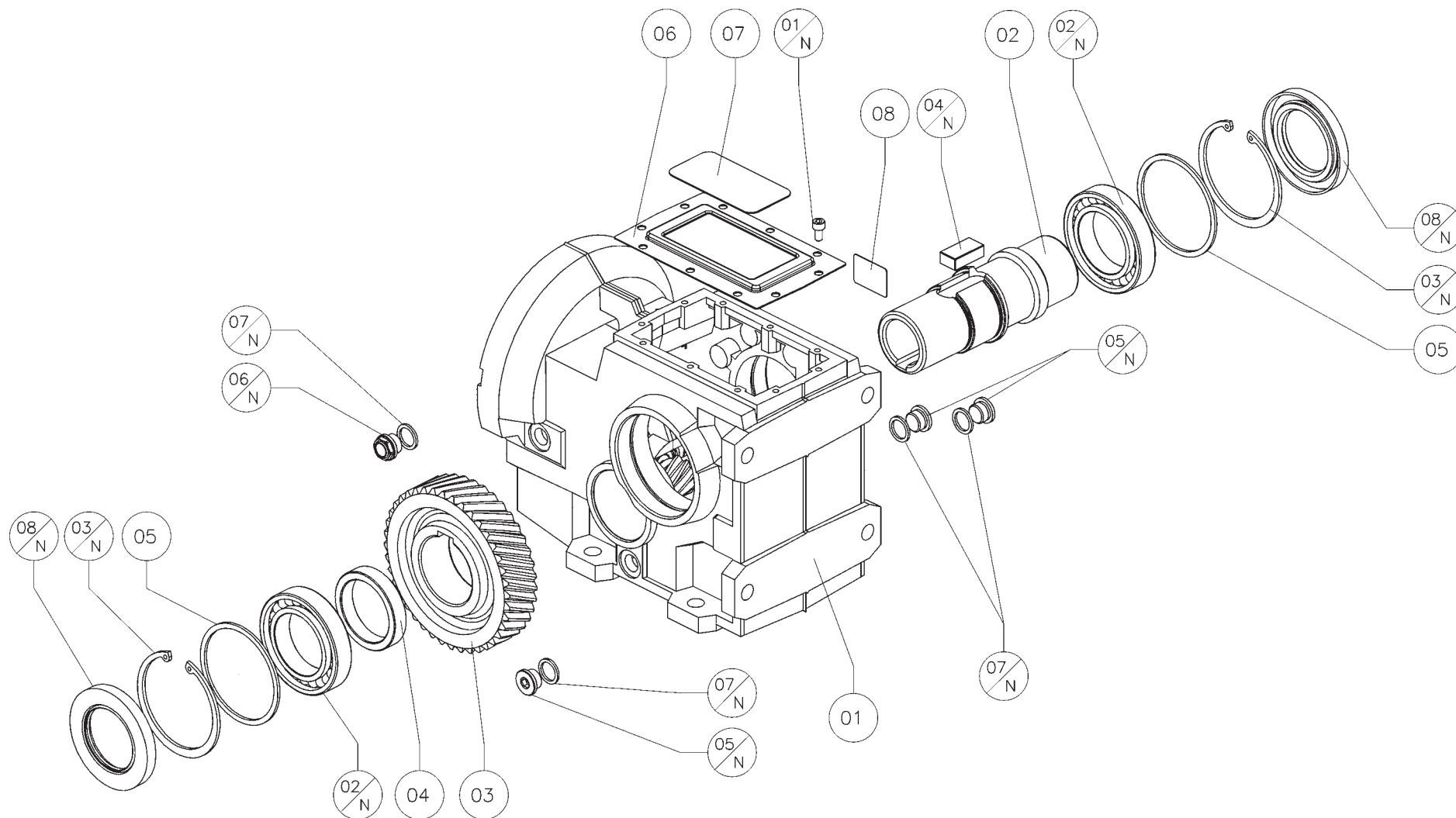
P	T	C	Built	080	100	125	140	150
B	002	1	Casing with foot	B.080.01	B.100.01	B.125.01	B.140.01	B.150.01
B	002	1	Casing with flange	B.080.02	B.100.02	B.125.02	-	-
B	002	1	Casing universal	B.080.09	B.100.09	B.125.09	-	-
B	002	2	Output shaft	B.080.12.41.3	B.100.12.51.3	B.125.12.60.3	B.140.12.73.3	B.150.12.92.3
B	002	3	Gear	H.060.26	H.080.26	H.100.26	H.125.26	H.140.26
B	002	4	Spacer	B.080.40	B.100.40	B.125.40	B.140.39	B.150.39
B	002	5	Spacer	8.080.32	8.100.32	8.125.32	8.140.32	8.160.32
B	002	6	Cover	H.060.07	H.080.07	H.100.07	H.125.07	H.140.07
B	002	7	Plate	H.060.100	H.060.100	H.060.100	H.060.100	H.060.100
B	002	8	Plate	9.040.99	9.040.99	9.040.99	9.040.99	9.040.99

P	T	C	Commercial	080		100		125		140		150	
B	002	1/N	Screw DIN 912	M6x12	10	M6x12	10	M6x12	10	M6x12	12	M8x16	12
B	002	2/N	Bearing	30210	2	32014x	2	32017x	2	32020x	2	32024x	2
B	002	3/N	Circlip DIN 472	90	2	110	2	130	2	150	2	180	2
B	002	4/N	Key	3/8x3/8x2-3/8"	1	1/2x1/2x3-1/8"	1	5/8x5/8x3-3/4"	1	3/4x3/4x4"	1	7/8x7/8x5"	1
B	002	5/N	Key	B 18x11x34	1	B 20x12x40	1	B 25x14x50	1	B 28x16x60	1	816038	1
B	002	6/N	Closing plug	3/8" gas	3	3/8" gas	3	1/2" gas	3	1/2" gas	3	1/2" gas	3
B	002	7/N	Oil level plug	3/8" gas	1	3/8" gas	1	1/2" gas	1	1/2" gas	1	1/2" gas	1
B	002	8/N	Gasket	3/8" gas	4	3/8" gas	4	1/2" gas	4	1/2" gas	4	1/2" gas	4
B	002	9/N	Cap	RCA 90-10	1	RCA 110-12	1	RCA 130-12	1	-	-	-	-
B	002	10/N	Oil seal DIN 3760	AS 50-90-10	1	AS 70-110-13	1	AS 85-130-10	1	AS 100-150-14	2	A 120-180-13	2



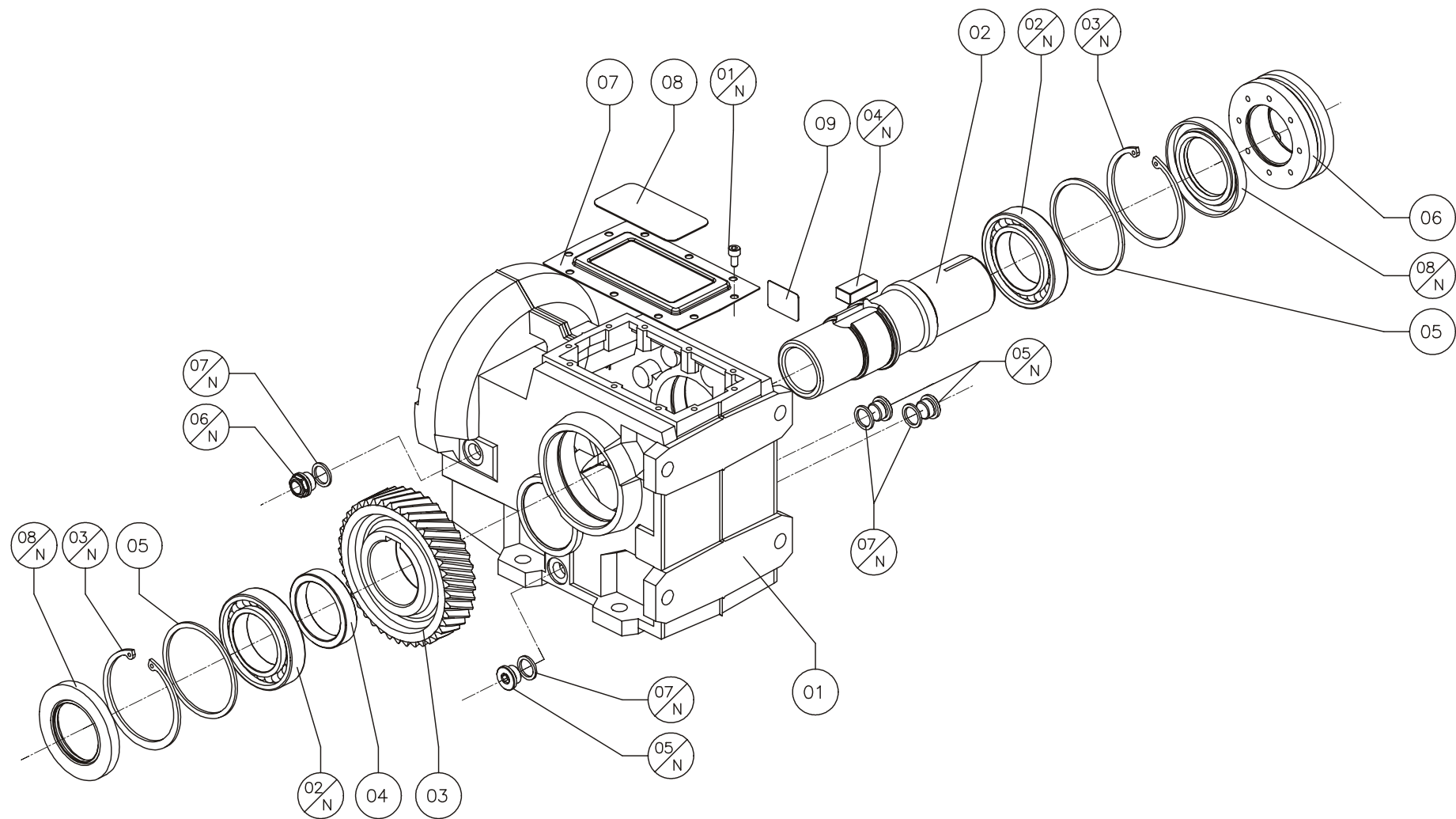
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B	003	1	Casing with foot	B.080.01	B.100.01	B.125.01	B.140.01	B.150.01
B	003	1	Casing with flange	B.080.02	B.100.02	B.125.02	-	-
B	003	1	Casing universal	B.080.09	B.100.09	B.125.09	-	-
B	003	2	Double output shaft	B.080.13.41.3	B.100.13.51.3	B.125.13.60.3	B.140.13.73.3	B.150.13.92.3
B	003	3	Gear	H.060.26	H.080.26	H.100.26	H.125.26	H.140.26
B	003	4	Spacer	B.080.40	B.100.40	B.125.40	B.140.39	B.150.39
B	003	5	Spacer	8.080.32	8.100.32	8.125.32	8.140.32	8.160.32
B	003	6	Cover	H.060.07	H.080.07	H.100.07	H.125.07	H.140.07
B	003	7	Plate	H.060.100	H.060.100	H.060.100	H.060.100	H.060.100
B	003	8	Plate	9.040.99	9.040.99	9.040.99	9.040.99	9.040.99

P	T	C	Commercial	080		100		125		140		150	
B	003	1/N	Screw DIN 912	M6x12	10	M6x12	10	M6x12	10	M6x12	12	M8x16	12
B	003	2/N	Bearing	30210	2	32014x	2	32017x	2	32020x	2	32024x	2
B	003	3/N	Circlip DIN 472	90	2	110	2	130	2	150	2	180	2
B	003	4/N	Key	3/8x3/8x2-3/8"	2	1/2x1/2x3-1/8"	2	5/8x5/8x3-3/4"	2	3/4x3/4x4"	2	7/8x7/8x5"	2
B	003	5/N	Key	B 18x11x34	1	B 20x12x40	1	B 25x14x50	1	B 28x16x60	1	816038	1
B	003	6/N	Closing plug	3/8" gas	3	3/8" gas	3	1/2" gas	3	1/2" gas	3	1/2" gas	3
B	003	7/N	Oil level plug	3/8" gas	1	3/8" gas	1	1/2" gas	1	1/2" gas	1	1/2" gas	1
B	003	8/N	Gasket	3/8" gas	4	3/8" gas	4	1/2" gas	4	1/2" gas	4	1/2" gas	4
B	003	9/N	Oil seal DIN 3760	AS 50-90-10	2	AS 70-110-12	2	AS 85-130-10	2	AS 100-150-14	2	A 120-180-13	2



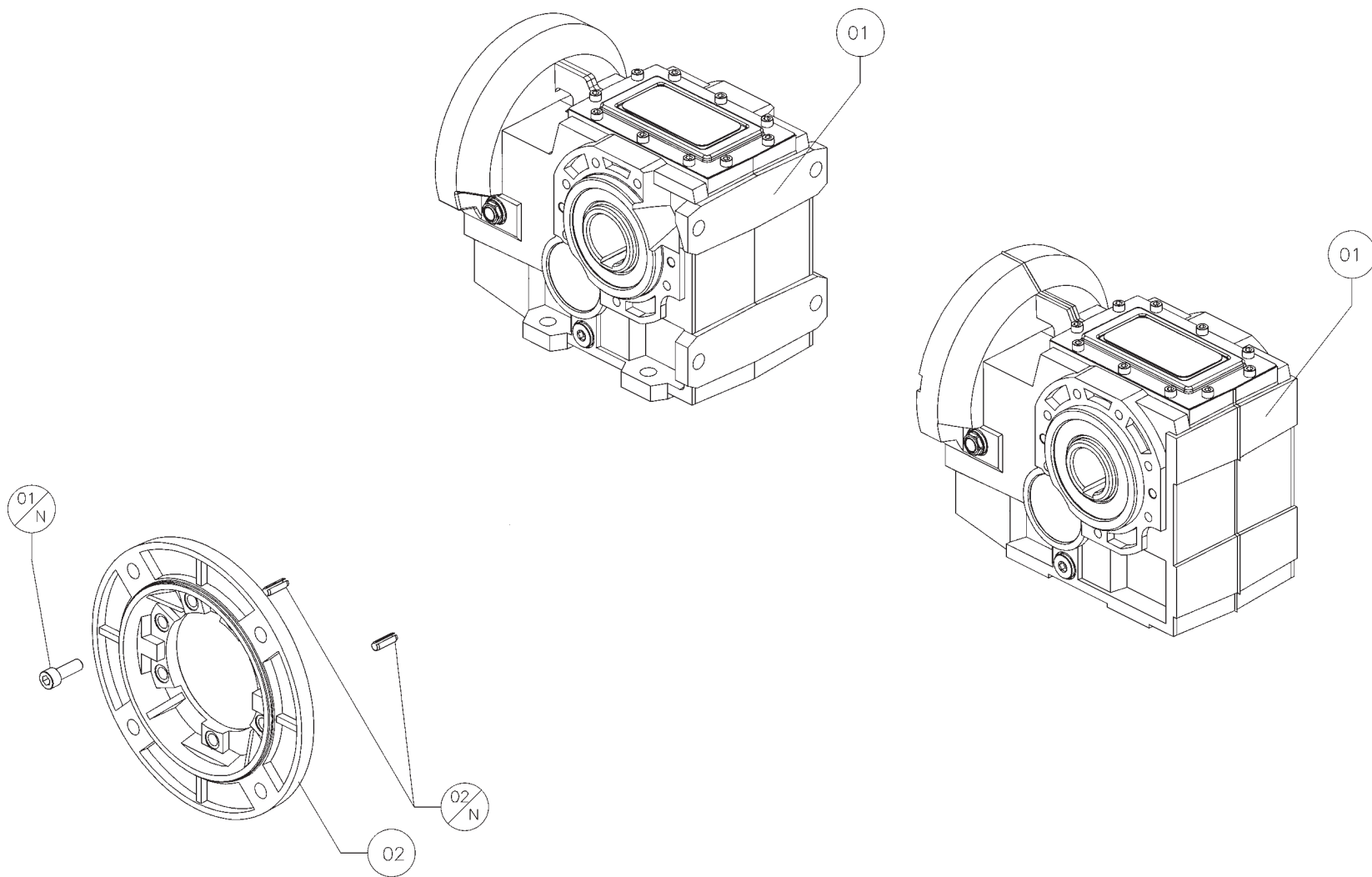
P	T	C	Built	080	100	125	140	150
B	004	1	Casing with foot	B.080.01	B.100.01	B.125.01	B.140.01	B.150.01
B	004	1	Casing with flange	B.080.02	B.100.02	B.125.02	-	-
B	004	1	Casing universal	B.080.09	B.100.09	B.125.09	-	-
B	004	2	Hollow output shaft	B.080.11.38.3	B.100.11.51.3	B.125.11.60.3	B.140.11.70.3	B.150.11.83.3
B	004	3	Gear	H.060.26	H.080.26	H.100.26	H.125.26	H.140.26
B	004	4	Spacer	B.080.39_2	B.100.39_2	B.125.40	B.140.39	B.150.39
B	004	5	Spacer	8.080.32	8.100.32	8.125.32	8.140.32	8.160.32
B	004	6	Cover	H.060.07	H.080.07	H.100.07	H.125.07	H.140.07
B	004	7	Plate	H.060.100	H.060.100	H.060.100	H.060.100	H.060.100
B	004	8	Plate	9.040.99	9.040.99	9.040.99	9.040.99	9.040.99

P	T	C	Commercial	080		100		125		140		150	
B	004	1/N	Screw DIN 912	M6x12	10	M6x12	10	M6x12	10	M6x12	12	M8x16	12
B	004	2/N	Bearing	32011x	2	32014x	2	32017x	2	32020x	2	32024x	2
B	004	3/N	Circlip DIN 472	90	2	110	2	130	2	150	2	180	2
B	004	4/N	Key	B 18x11x34	1	B 20x12x40	1	B 25x14x50	1	B 28x16x60	1	816038	1
B	004	5/N	Closing plug	3/8" gas	3	3/8" gas	3	1/2" gas	3	1/2" gas	3	1/2" gas	3
B	004	6/N	Oil level plug	3/8" gas	1	3/8" gas	1	1/2" gas	1	1/2" gas	1	1/2" gas	1
B	004	7/N	Gasket	3/8" gas	4	3/8" gas	4	1/2" gas	4	1/2" gas	4	1/2" gas	4
B	004	8/N	Oil seal DIN 3760	AS 55-90-10	2	AS 70-110-12	2	AS 85-130-10	2	AS 100-150-14	2	A 120-180-13	2



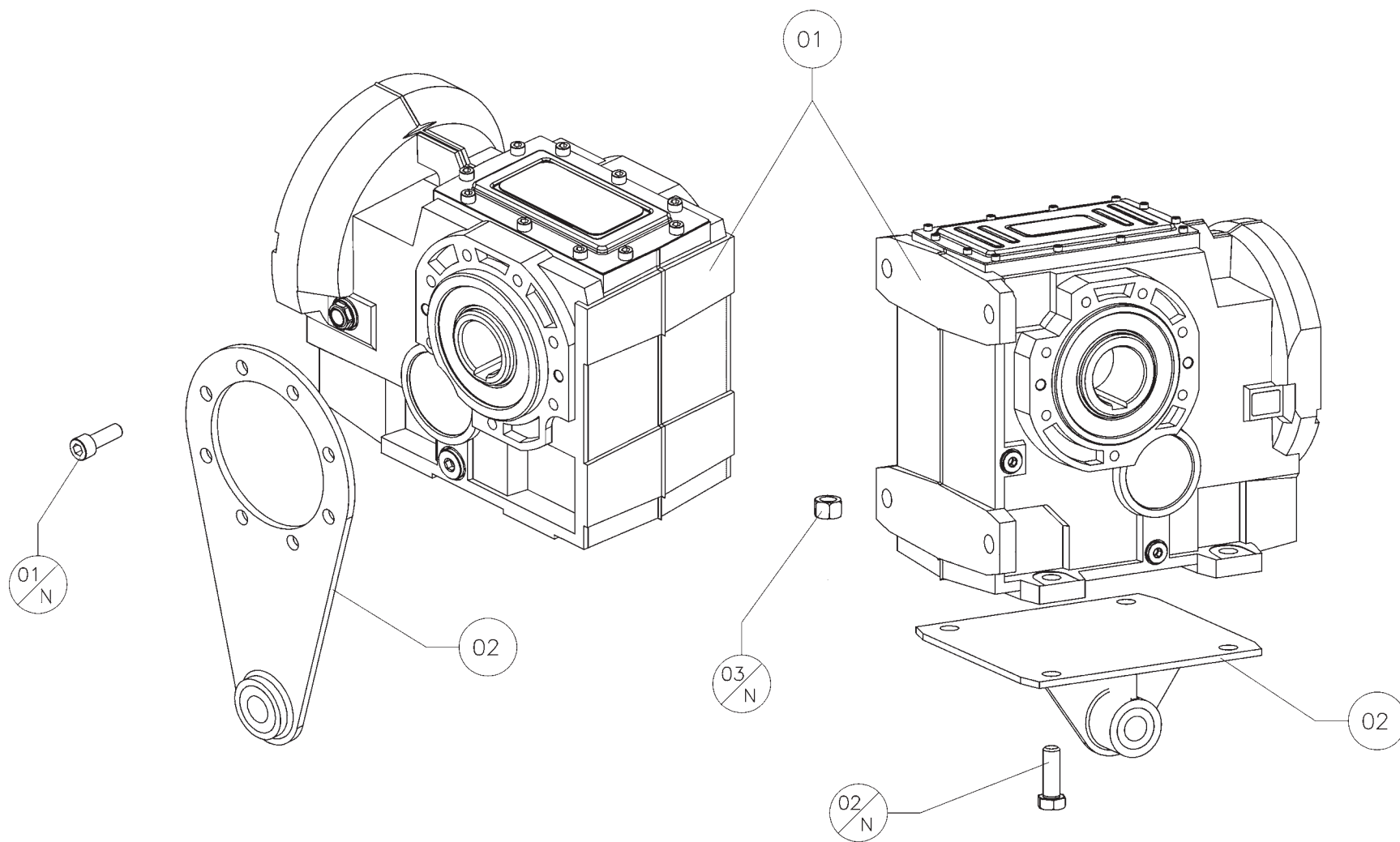
P	T	C	Built	080	100	125	140	150
B	005	1	Casing with foot	B.080.01	B.100.01	B.125.01	B.140.01	B.150.01
B	005	1	Casing with flange	B.080.02	B.100.02	B.125.02	-	-
B	005	1	Casing universal	B.080.09	B.100.09	B.125.09	-	-
B	005	2	Shaft for shrink disc	B.080.20	B.100.20	B.125.20	B.140.20	B.150.20
B	005	3	Gear	H.060.26	H.080.26	H.100.26	H.125.26	H.140.26
B	005	4	Spacer	B.080.39	B.100.39	B.125.39	B.140.39	B.150.39
B	005	5	Spacer	-	-	8.125.32	8.140.32	8.160.32
B	005	6	Shrink disc	8.080.54	8.100.54	8.125.54	8.140.54	8.160.54
B	005	7	Cover	H.060.07	H.080.07	H.100.07	H.125.07	H.140.07
B	005	8	Plate	H.060.100	H.060.100	H.060.100	H.060.100	H.060.100
B	005	9	Plate	9.040.99	9.040.99	9.040.99	9.040.99	9.040.99

P	T	C	Commercial	080		100		125		140		150	
B	005	1/N	Screw DIN 912	M6x12	10	M6x12	10	M6x12	10	M6x12	12	M8x16	12
B	005	2/N	Bearing	6011	2	6014	2	6017	2	32020x	2	32024x	2
B	005	3/N	Circlip DIN 472	90	2	110	2	130	2	150	2	180	2
B	005	4/N	Key	B 18x11x34	1	B 20x12x40	1	B 25x14x50	1	B 28x16x60	1	816038	1
B	005	5/N	Closing plug	3/8" gas	3	3/8" gas	3	1/2" gas	3	1/2" gas	3	1/2" gas	3
B	005	6/N	Oil level plug	3/8" gas	1	3/8" gas	1	1/2" gas	1	1/2" gas	1	1/2" gas	1
B	005	7/N	Gasket	3/8" gas	4	3/8" gas	4	1/2" gas	4	1/2" gas	4	1/2" gas	4
B	005	8/N	Oil seal DIN 3760	AS 55-90-10	2	AS 70-110-12	2	AS 85-130-10	2	AS 100-150-14	2	A 120-180-13	2



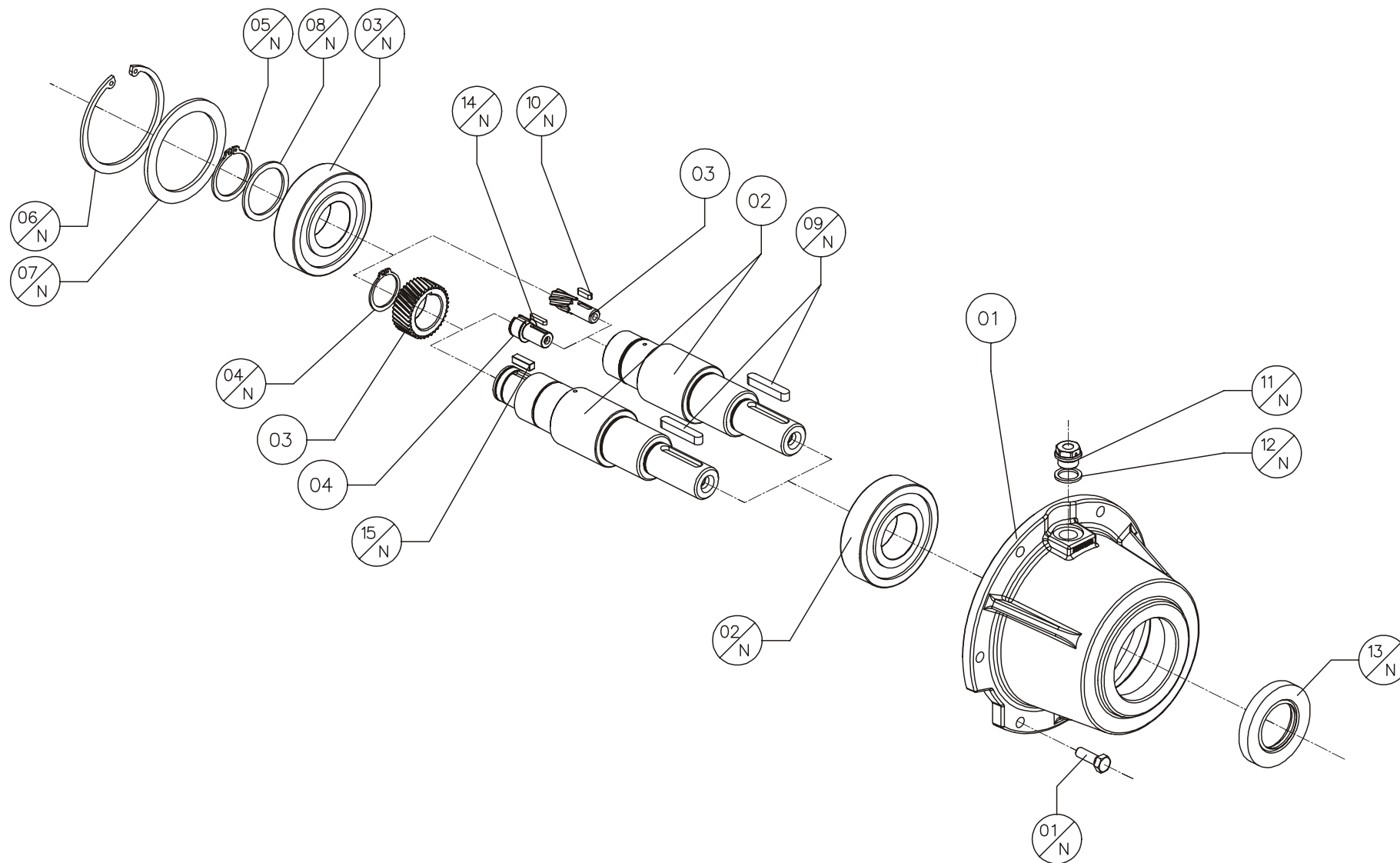
P	T	C	Built	080	100	125	140	150
B	006	1	Casing universal	B.080.09	B.100.09	B.125.09	B.140.01	B.150.01
B	006	1	Casing with flange	B.080.02	B.100.02	B.125.02	-	-
B	006	2	Flange	H.060.06	H.080.06	H.100.06	H.125.06	H.140.06

P	T	C	Commercial	080		100		125		140		150	
B	006	1/N	Screw DIN 912	M10x30	7	M12x35	7	M14x40	7	M14x40	7	M16x45	7
B	006	2/N	Dowel pin DIN 7344	8x24	2	10x30	2	12x36	2	12x36	2	14x40	2



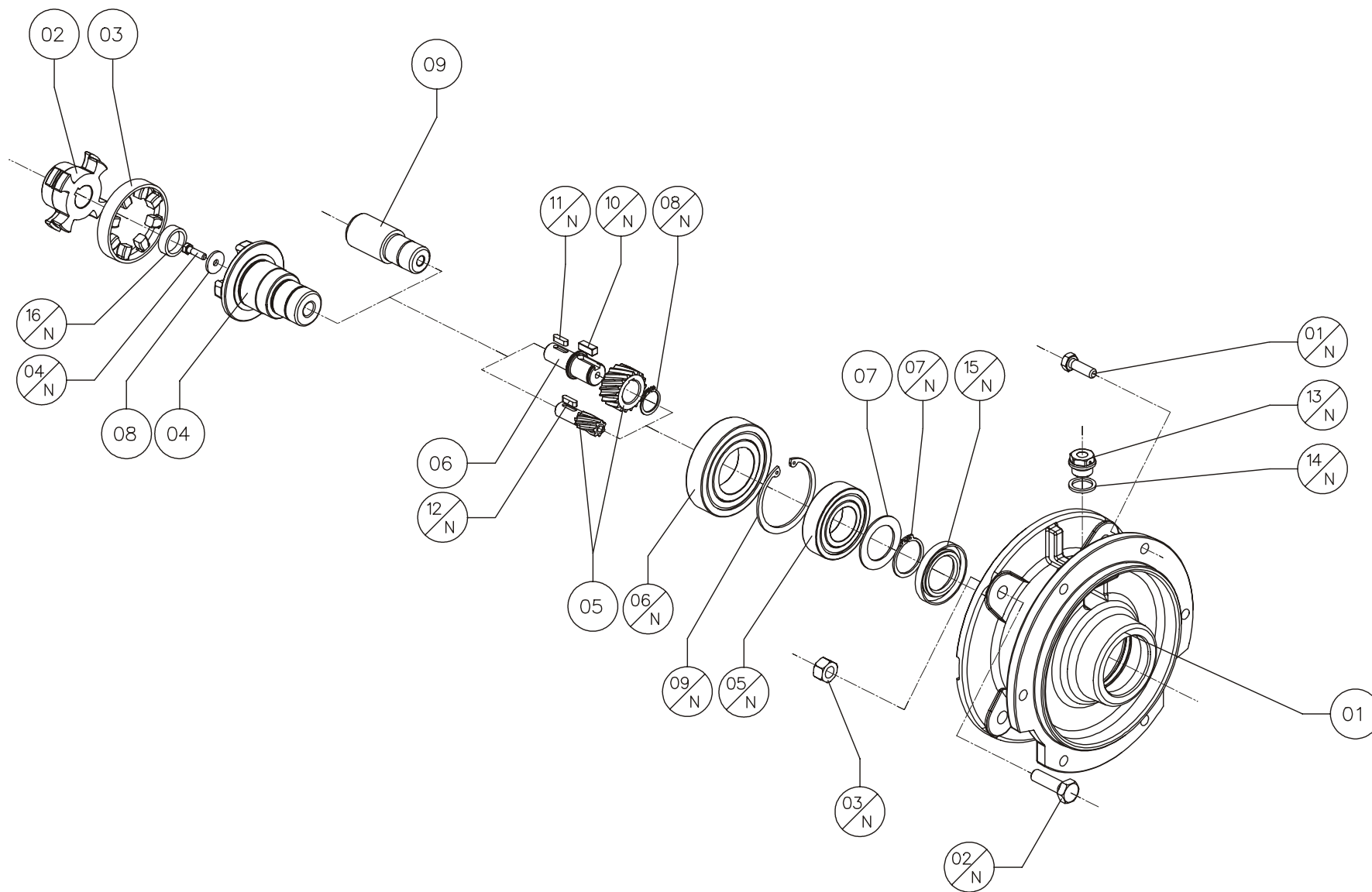
P	T	C	Built	080	100	125	140	150
B	007	1	Casing with flange	B.080.02	B.100.02	B.125.02	B.140.01	B.150.01
B	007	2	Torque arm	B.080.08	B.100.08	B.125.08	B.140.08	B.150.08

P	T	C	Commercial	080		100		125		140		150	
B	007	1/N	Screw DIN 912	M10x30	6	M12x35	6	M14x40	6	-	-	-	-
B	007	2/N	Screw DIN 931	-	-	-	-	-	-	M20x50	4	M24x60	4
B	007	3/N	Nut DIN 934/6	-	-	-	-	-	-	M20	4	M24	4



P	T	C	Built	80	100	125	140	150
B	008	1	Cover	H.060.03	H.060.03	H.100.03	H.100.03	H.140.03
B	008	2	Input shaft	H.060.15.35.3	H.060.15.35.3	H.100.15.41.3	H.100.15.41.3	H.140.15.41.3
B	008	3	Pinion	H.060.23	H.060.23	H.080.23	H.100.23	H.125.23
B	008	4	Pinion hub	H.060.22	H.060.22	H.080.22	-	-

P	T	C	Commercial	80		100		125		140		150	
B	008	1/N	Screw DIN 931	M8x25	6	M8x25	6	M12x35	6	M12x35	6	M12x35	8
B	008	2/N	Bearing	6308	1	6308	1	6309	1	6309	1	NJ310EC	1
B	008	3/N	Bearing	6308	1	6308	1	6310	1	6310	1	6312	1
B	008	4/N	Circlip DIN 471	24	1	24	1	30	1	40	1	40	1
B	008	5/N	Circlip DIN 471	-	-	-	-	-	-	-	-	60	1
B	008	6/N	Circlip DIN 472	90	1	90	1	110	1	110	1	130	1
B	008	7/N	Bearing spacer	ADS 90-70-3,5	1	ADS 90-70-3,5	1	ADS 110x90x2	1	ADS 110x90x2	1	ADS 130x105x3,5	1
B	008	8/N	Bearing spacer	-	-	-	-	-	-	-	-	ADS 75x60x30	1
B	008	9/N	Key	5/16x5/16x2-1/8"	1	5/16x5/16x2-1/8"	1	3/8x3/8x2-1/2"	1	3/8x3/8x2-1/2"	1	3/8x3/8x2-1/2"	1
B	008	10/N	Key DIN 6885	-	-	A 8x7x40	1	A 8x7x40	1	A 8x7x40	1	A 8x7x40	1
B	008	11/N	Breather plug	3/8" gas	1	3/8" gas	1	1/2" gas	1	1/2" gas	1	1/2" gas	1
B	008	12/N	Gasket	3/8" gas	1	3/8" gas	1	1/2" gas	1	1/2" gas	1	1/2" gas	1
B	008	13/N	Oil seal DIN 3760	ADT AS 40-72-10	1	ADT AS 40-72-10	1	ADT AS 45-80-10	1	ADT AS 45-80-10	1	ADT A 50-90-10	1
B	008	14/N	Key DIN 6885	-	-	A 8x7x40	1	A 8x7x40	1	A 8x7x40	1	A 8x7x40	1
B	008	15/N	Key DIN 6885	B 8x7x16	1	B 8x7x16	1	B 8x7x18	1	B 12x8x25	1	B 12x8x25	1



IEC Input

B080-B100	P	T	C	Commercial	080	090	100	112	132	160	180	200	225	
	B	011	2/N	Screw DIN 931	M10x35	4	M10x35	4	M12x45	4	M12x50	4	M16x50	4
	B	011	3/N	Nut DIN 934/6	M10x10	4	M10x10	4	M12x12	4	M12x12	4	M16x16	4
	B	011	5/N	Bearing	6206 2Z	1	6206 2Z	1	6207 2Z	1	6208 2Z	1	6310 2Z	1
	B	011	6/N	Bearing	6208 2Z	1	6208 2Z	1	6210 2Z	1	6212 2Z	1	6015 2Z	1
	B	011	7/N	Circlip DIN 471	30	1	30	1	35	1	40	1	50	1
	B	011	9/N	Circlip DIN 472	62	1	62	1	72	1	80	1	110	1
P	T	C	Built	080	090	100	112	132	160	180	200	225		
B	011	1	Flange	H.060.04	H.060.04	H.060.04	H.060.04	H.060.04	H.060.04	H.060.04				

B125-B140	P	T	C	Commercial	080	090	100	112	132	160	180	200	225		
	B	011	2/N	Screw DIN 931		M10x35	4	M12x45	4	M12x45	4	M12x50	4	M16x50	4
	B	011	3/N	Nut DIN 934/6		M10x10	4	M12x12	4	M12x12	4	M12x12	4	M16x16	4
	B	011	5/N	Bearing		6206 2Z	1	6207 2Z	1	6207 2Z	1	6208 2Z	1	6310 2Z	1
	B	011	6/N	Bearing		6208 2Z	1	6210 2Z	1	6210 2Z	1	6212 2Z	1	6015 2Z	1
	B	011	7/N	Circlip DIN 471		30	1	35	1	35	1	40	1	50	1
	B	011	9/N	Circlip DIN 472		62	1	72	1	72	1	80	1	110	1
P	T	C	Built	080	090	100	112	132	160	180	200	225			
B	011	1	Flange		H.100.04	H.100.04	H.100.04	H.100.04	H.100.04	H.100.04	H.100.04	H.100.04	H.100.04		

B150	P	T	C	Commercial	080	090	100	112	132	160	180	200	225		
	B	011	2/N	Screw DIN 931						M12x50	4	M16x50	4	M16x50	4
	B	011	3/N	Nut DIN 934/6						M12x12	4	M16x16	4	M16x16	4
	B	011	5/N	Bearing						6208 2Z	1	6310 2Z	1	6310 2Z	1
	B	011	6/N	Bearing						6212 2Z	1	6015 2Z	1	6015 2Z	1
	B	011	7/N	Circlip DIN 471						40	1	50	1	50	1
	B	011	9/N	Circlip DIN 472						80	1	110	1	110	1
P	T	C	Built	080	090	100	112	132	160	180	200	225			
B	011	1	Flange						H.140.04	H.140.04	H.140.04	H.140.04	H.140.04		

NEMA Input

B080-B100	P	T	C	Commercial	56C	140TC	180TC	210TC	250TC	280TC	320TC	360TC	
	B	009	2/N	Screw DIN 931	-	-	-	-	-	-	-	-	-
	B	009	3/N	Nut DIN 934/6	-	-	-	-	-	-	-	-	-
	B	009	5/N	Bearing	6206 2Z	1	6206 2Z	1	6207 2Z	1	6310 2Z	1	
	B	009	6/N	Bearing	6208 2Z	1	6208 2Z	1	6210 2Z	1	6015 2Z	1	
	B	009	7/N	Circlip DIN 471	30	1	30	1	35	1	50	1	
	B	009	9/N	Circlip DIN 472	62	1	62	1	72	1	110	1	
P	T	C	Built	56C	140TC	180TC	210TC	250TC	280TC	320TC	360TC		
B	009	1	Flange	H.060.04.165.3	H.060.04.165.3	H.060.04.229.3.1	H.060.04.229.3	H.060.04.229.3					
B	009	2	Motor half coupling	H.060.12.056C	H.060.12.140TC_1	H.060.12.180TC_1	H.060.12.210TC_1	H.060.12.250TC_1					
B	009	3	Flexible joint	H.060.13.080	H.060.13.080	H.060.13.112	H.060.13.160	H.060.13.160					

B125-B140	P	T	C	Commercial	56C	140TC	180TC	210TC	250TC	280TC	320TC	360TC	
	B	009	2/N	Screw DIN 931		-	-	-	-	-	-	-	-
	B	009	3/N	Nut DIN 934/6		-	-	-	-	-	-	-	-
	B	009	5/N	Bearing		6206 2Z	1	6207 2Z	1	6310 2Z	1	6312 2Z	1
	B	009	6/N	Bearing		6208 2Z	1	6210 2Z	1	6015 2Z	1	6018 2Z	1
	B	009	7/N	Circlip DIN 471		30	1	35	1	50	1	60	1
	B	009	9/N	Circlip DIN 472		62	1	72	1	110	1	130	1
P	T	C	Built	56C	140TC	180TC	210TC	250TC	280TC	320TC	360TC		
B	009	1	Flange		H.100.04.165.3	H.100.04.229.3.1	H.100.04.229.3	H.100.04.229.3	H.100.04.279.3.1	H.100.04.340.3.1			
B	009	2	Motor half coupling		H.060.12.140TC_1	H.060.12.180TC_1	H.060.12.210TC_1	H.060.12.250TC_1	H.100.12.280TC_1	H.100.12.320TC_1			
B	009	3	Flexible joint		H.060.13.080	H.060.13.112	H.060.13.160	H.060.13.160	H.100.13.200	H.100.13.200			

B150	P	T	C	Commercial	56C	140TC	180TC	210TC	250TC	280TC	320TC	360TC	
	B	009	2/N	Screw DIN 931			-	-	-	-	-	-	-
	B	009	3/N	Nut DIN 934/6			-	-	-	-	-	-	-
	B	009	5/N	Bearing			6207 2Z	1	6310 2Z	1	6312 2Z	1	6312 2Z
	B	009	6/N	Bearing			6210 2Z	1	6015 2Z	1	6018 2Z	1	6018 2Z
	B	009	7/N	Circlip DIN 471			35	1	50	1	60	1	60
	B	009	9/N	Circlip DIN 472			72	1	110	1	130	1	130
P	T	C	Built	56C	140TC	180TC	210TC	250TC	280TC	320TC	360TC		
B	009	1	Flange			H.140.04.229.3.1	H.140.04.229.3	H.140.04.229.3	H.140.04.279.3	H.140.04.340.3.1	H.140.04.340.3.1		
B	009	2	Motor half coupling			H.060.12.180TC_1	H.060.12.210TC_1	H.060.12.250TC_1	H.100.12.280TC_1	H.100.12.320TC_1	H.140.12.360TC_1		
B	009	3	Flexible joint			H.060.13.112	H.060.13.160	H.060.13.160	H.100.13.200	H.100.13.200	H.100.13.200		

IEC Input

080	P	T	C	Built	080	090	100	112	132	160	180	200
	B	011	4	Motor sleeve	H.060.16	H.060.16	H.060.16	H.060.16	H.060.16			
	B	011	5	Pinion 2st.	H.060.23	H.060.23	H.060.23	H.060.23	H.060.23			
	B	011	5	Pinion 2st. key	-	-	-	-	-			
	B	011	6	Pinion hub 2st.	H.060.22	H.060.22	H.060.22	H.060.22	H.060.22			
	B	011	6	Pinion hub 2st. key	-	-	-	-	-			
	B	011	7	Spacer	-	-	-	-	-			
	B	011	8	Ring	-	-	-	-	-			

080	P	T	C	Commercial	080		090		100		112		132		160	180	200
	B	011	1/N	Screw DIN 931	M8x25	6	M8x25	6	M8x25	6	M8x25	6	M8x25	6			
	B	011	4/N	Screw DIN 931	-	-	-	-	-	-	-	-	-	-			
	B	011	8/N	Circlip DIN471	24	1	24	1	24	1	24	1	24	1			
	B	011	10/N	Key DIN 6885	B 8x7x16	1	B 8x7x16	1	B 8x7x16	1	B 8x7x16	1	B 8x7x16	1			
	B	011	11/N	Key DIN 6885	-	-	-	-	-	-	-	-	-	-			
	B	011	12/N	Key DIN 6885	-	-	-	-	-	-	-	-	-	-			
	B	011	13/N	Closing plug	3/8" gas	1	3/8" gas	1	3/8" gas	1	3/8" gas	1	3/8" gas	1			
	B	011	14/N	Gasket	3/8" gas	1	3/8" gas	1	3/8" gas	1	3/8" gas	1	3/8" gas	1			
	B	011	15/N	Oil seal DIN 3760	ADT A 30-52-7	1	ADT A 30-52-7	1	ADT A 35-62-7	1	ADT A 35-62-7	1	ADT A 40-72-10	1			
	B	011	16/N	Cap	-	-	-	-	-	-	-	-	-	-			

NEMA Input

080	P	T	C	Built	56C	140TC	180TC	210TC	250TC	280TC	320TC	360TC
	B	009	4	Reduction half coupling	H.060.14	H.060.14	H.060.14	H.060.14				
	B	009	5	Pinion 2st.	H.060.23	H.060.23	H.060.23	H.060.23				
	B	009	5	Pinion 2st. key	H.060.23	H.060.23	H.060.23	H.060.23				
	B	009	6	Pinion hub 2st.	H.060.22	H.060.22	H.060.22	H.060.22				
	B	009	6	Pinion hub 2st. key	-	-	-	-				
	B	009	7	Spacer	-	-	-	ADS 62x50x3				
	B	009	8	Ring	-	-	-	-				

080	P	T	C	Commercial	56C		140TC		180TC		210TC		250TC	280TC	320TC	360TC
	B	009	1/N	Screw DIN 931	M8x25	6	M8x25	6	M8x25	6	M8x25	6				
	B	009	4/N	Screw DIN 931	-	-	-	-	-	-	-	-				
	B	009	8/N	Circlip DIN471	24	1	24	1	24	1	24	1				
	B	009	10/N	Key DIN 6885	B 8x7x16	1	B 8x7x16	1	B 8x7x16	1	B 8x7x16	1				
	B	009	11/N	Key DIN 6885	-	-	-	-	-	-	-	-				
	B	009	12/N	Key DIN 6885	-	-	-	-	-	-	-	-				
	B	009	13/N	Closing plug	3/8" gas	1	3/8" gas	1	3/8" gas	1	3/8" gas	1				
	B	009	14/N	Gasket	3/8" gas	1	3/8" gas	1	3/8" gas	1	3/8" gas	1				
	B	009	15/N	Oil seal DIN 3760	ADT A 30-52-7	1	ADT A 30-52-7	1	ADT A 35-62-7	1	ADT A 50-72-8	1				
	B	009	16/N	Cap	-	-	-	-	-	-	RCA 40-7	1				

IEC Input

100	P	T	C	Built	080	090	100	112	132	160	180	200
	B	011	4	Motor sleeve	H.060.16	H.060.16	H.060.16	H.060.16	H.060.16	H.060.16		
	B	011	5	Pinion 2st.	H.060.23	H.060.23	H.060.23	H.060.23	H.060.23	-		
	B	011	5	Pinion 2st. key	-	-	-	-	-	H.060.23		
	B	011	6	Pinion hub 2st.	H.060.22	H.060.22	H.060.22	H.060.22	H.060.22	-		
	B	011	6	Pinion hub 2st. key	-	-	-	-	-	H.080.22		
	B	011	7	Spacer	-	-	-	-	-	ADS 62x50x3		
	B	011	8	Ring	-	-	-	-	-	-		

100	P	T	C	Commercial	080	090	100	112	132	160	180	200
	B	011	1/N	Screw DIN 931	M8x25	6	M8x25	6	M8x25	6	M8x25	6
	B	011	4/N	Screw DIN 931	-	-	-	-	-	-	-	-
	B	011	8/N	Circlip DIN471	24	1	24	1	24	1	24	1
	B	011	10/N	Key DIN 6885	B 8x7x16	1	B 8x7x16	1	B 8x7x16	1	B 8x7x16	1
	B	011	11/N	Key DIN 6885	-	-	-	-	-	-	A 8x7x40	1
	B	011	12/N	Key DIN 6885	-	-	-	-	-	-	A 8x7x40	1
	B	011	13/N	Closing plug	3/8" gas	1	3/8" gas	1	3/8" gas	1	3/8" gas	1
	B	011	14/N	Gasket	3/8" gas	1	3/8" gas	1	3/8" gas	1	3/8" gas	1
	B	011	15/N	Oil seal DIN 3760	ADT A 30-52-7	1	ADT A 30-52-7	1	ADT A 35-62-7	1	ADT A 40-72-10	1
	B	011	16/N	Cap	-	-	-	-	-	-	RCA 40-7	1

NEMA Input

100	P	T	C	Built	56C	140TC	180TC	210TC	250TC	280TC	320TC	360TC
	B	009	4	Reduction half coupling	H.060.14	H.060.14	H.060.14	H.060.14	H.060.14			
	B	009	5	Pinion 2st.	H.060.23	H.060.23	H.060.23	H.060.23	H.060.23			
	B	009	5	Pinion 2st. key	H.060.23	H.060.23	H.060.23	H.060.23	H.060.23			
	B	009	6	Pinion hub 2st.	H.060.22	H.060.22	H.060.22	-	-			
	B	009	6	Pinion hub 2st. key	-	-	-	H.060.22	H.060.22			
	B	009	7	Spacer	-	-	-	ADS 62x50x3	ADS 62x50x3			
	B	009	8	Ring	-	-	-	-	-			

100	P	T	C	Commercial	56C	140TC	180TC	210TC	250TC	280TC	320TC	360TC
	B	009	1/N	Screw DIN 931	M8x25	6	M8x25	6	M8x25	6	M8x25	6
	B	009	4/N	Screw DIN 931	-	-	-	-	-	-	-	-
	B	009	8/N	Circlip DIN471	24	1	24	1	24	1	24	1
	B	009	10/N	Key DIN 6885	B 8x7x16	1	B 8x7x16	1	B 8x7x16	1	B 8x7x16	1
	B	009	11/N	Key DIN 6885	-	-	-	-	A 8x7x40	1	A 8x7x40	1
	B	009	12/N	Key DIN 6885	-	-	-	-	-	-	-	-
	B	009	13/N	Closing plug	3/8" gas	1	3/8" gas	1	3/8" gas	1	3/8" gas	1
	B	009	14/N	Gasket	3/8" gas	1	3/8" gas	1	3/8" gas	1	3/8" gas	1
	B	009	15/N	Oil seal DIN 3760	ADT A 30-52-7	1	ADT A 30-52-7	1	ADT A 35-62-7	1	ADT A 50-72-8	1
	B	009	16/N	Cap	-	-	-	-	RCA 40-7	1	RCA 40-7	1

IEC Input

125	P	T	C	Built	080	090	100	112	132	160	180	200
	B	011	4	Motor sleeve		H.060.16	H.060.16	H.060.16	H.060.16	H.060.16	H.060.16	
	B	011	5	Pinion 2st.		H.080.23	H.080.23	H.080.23	H.080.23	-	-	
	B	011	5	Pinion 2st. key		-	-	-	-	H.080.23	H.080.23	
	B	011	6	Pinion hub 2st.		-	-	-	-	-	-	
	B	011	6	Pinion hub 2st. key		-	-	-	-	H.080.22	H.080.22	
	B	011	7	Spacer		-	-	-	-	ADS 62x50x3	ADS 62x50x3	
	B	011	8	Ring		-	-	-	-	-	-	

125	P	T	C	Commercial	080	090	100	112	132	160	180	200	
	B	011	1/N	Screw DIN 931		M12x35	6	M12x35	6	M12x35	6	M12x35	6
	B	011	4/N	Screw DIN 931		-	-	-	-	-	-	-	
	B	011	8/N	Circlip DIN471		-	-	-	-	30	1	30	1
	B	011	10/N	Key DIN 6885		-	-	-	-	B 8x7x18	1	B 8x7x18	1
	B	011	11/N	Key DIN 6885		-	-	-	-	A 8x7x40	1	A 8x7x40	1
	B	011	12/N	Key DIN 6885		-	-	-	-	A 8x7x40	1	A 8x7x40	1
	B	011	13/N	Closing plug		1/2" gas	1	1/2" gas	1	1/2" gas	1	1/2" gas	1
	B	011	14/N	Gasket		1/2" gas	1	1/2" gas	1	1/2" gas	1	1/2" gas	1
	B	011	15/N	Oil seal DIN 3760		ADT A 30-52-7	1	ADT A 35-62-7	1	ADT A 40-72-10	1	ADT A 50-72-8	1
	B	011	16/N	Cap		-	-	-	-	RCA 40-7	1	RCA 40-7	1

NEMA Input

125	P	T	C	Built	56C	140TC	180TC	210TC	250TC	280TC	320TC	360TC
	B	009	4	Reduction half coupling		H.060.14	H.060.14	H.060.14	H.060.14	H.100.14		
	B	009	5	Pinion 2st.		H.080.23	H.080.23	H.080.23	H.080.23	H.080.23		
	B	009	5	Pinion 2st. key		-	-	H.080.23	H.080.23	H.080.23		
	B	009	6	Pinion hub 2st.		-	-	-	-	-		
	B	009	6	Pinion hub 2st. key		-	-	H.080.22	H.080.22	H.080.22		
	B	009	7	Spacer		-	-	ADS 62x50x3	ADS 62x50x3	ADS 75x60x3		
	B	009	8	Ring		-	-	-	-	8.100.34		

125	P	T	C	Commercial	56C	140TC	180TC	210TC	250TC	280TC	320TC	360TC
	B	009	1/N	Screw DIN 931		M12x35	6	M12x35	6	M12x35	6	
	B	009	4/N	Screw DIN 931		-	-	-	-	M10x25	1	
	B	009	8/N	Circlip DIN471		-	-	30	-	30	1	
	B	009	10/N	Key DIN 6885		-	-	B 8x7x18	-	B 8x7x18	1	
	B	009	11/N	Key DIN 6885		-	-	A 8x7x40	-	A 8x7x40	1	
	B	009	12/N	Key DIN 6885		-	-	A 8x7x40	-	A 8x7x40	1	
	B	009	13/N	Closing plug		1/2" gas	1	1/2" gas	1	1/2" gas	1	
	B	009	14/N	Gasket		1/2" gas	1	1/2" gas	1	1/2" gas	1	
	B	009	15/N	Oil seal DIN 3760		ADT A 30-52-7	1	ADT A 35-62-7	1	ADT A 50-72-8	1	ADT A 60-85-8
	B	009	16/N	Cap		-	-	RCA 40-7	1	RCA 40-7	1	

IEC Input

140	P	T	C	Built	080	090	100	112	132	160	180	200
	B	011	4	Motor sleeve			H.060.16	H.060.16	H.060.16	H.060.16	H.060.16	H.100.16
	B	011	5	Pinion 2st.			H.100.23	H.100.23	H.100.23	-	-	-
	B	011	5	Pinion 2st. key			-	-	-	H.100.23	H.100.23	H.100.23
	B	011	6	Pinion hub 2st.			-	-	H.100.22	-	-	-
	B	011	6	Pinion hub 2st. key			-	-	-	H.100.22	H.100.22	H.100.22
	B	011	7	Spacer			-	-	-	ADS 62x50x3	ADS 62x50x3	ADS 75x60x3
	B	011	8	Ring			-	-	-	-	-	8.100.34

140	P	T	C	Commercial	080	090	100	112	132	160	180	200		
	B	011	1/N	Screw DIN 931			M12x35	6	M12x35	6	M12x35	6	M12x35	6
	B	011	4/N	Screw DIN 931			-	-	-	-	-	M10x25	1	
	B	011	8/N	Circlip DIN471			-	-	40	1	40	1	40	1
	B	011	10/N	Key DIN 6885			-	-	B 12x8x25	1	B 12x8x25	1	B 12x8x25	1
	B	011	11/N	Key DIN 6885			-	-	-	-	A 8x7x40	1	A 8x7x40	1
	B	011	12/N	Key DIN 6885			-	-	-	-	A 8x7x40	1	A 8x7x40	1
	B	011	13/N	Closing plug			1/2" gas	1	1/2" gas	1	1/2" gas	1	1/2" gas	1
	B	011	14/N	Gasket			1/2" gas	1	1/2" gas	1	1/2" gas	1	1/2" gas	1
	B	011	15/N	Oil seal DIN 3760			ADT A 35-62-7	1	ADT A 35-62-7	1	ADT A 40-72-10	1	ADT A 50-72-8	1
	B	011	16/N	Cap			-	-	-	-	RCA 40-7	1	RCA 40-7	1

NEMA Input

140	P	T	C	Built	56C	140TC	180TC	210TC	250TC	280TC	320TC	360TC
	B	009	4	Reduction half coupling			H.060.14	H.060.14	H.060.14	H.100.14	H.100.14	
	B	009	5	Pinion 2st.			H.100.23	H.100.23	H.100.23	H.100.23	H.100.23	
	B	009	5	Pinion 2st. key			-	H.100.23	H.100.23	H.100.23	H.100.23	
	B	009	6	Pinion hub 2st.			-	-	-	-	-	
	B	009	6	Pinion hub 2st. key			-	H.100.22	H.100.22	H.100.22	H.100.22	
	B	009	7	Spacer			-	ADS 62x50x3	ADS 62x50x3	ADS 75x60x3	ADS 75x60x3	
	B	009	8	Ring			-	-	-	8.100.34	8.100.34	

140	P	T	C	Commercial	56C	140TC	180TC	210TC	250TC	280TC	320TC	360TC
	B	009	1/N	Screw DIN 931			M12x35	6	M12x35	6	M12x35	6
	B	009	4/N	Screw DIN 931			-	-	-	-	M10x25	1
	B	009	8/N	Circlip DIN471			-	40	1	40	1	40
	B	009	10/N	Key DIN 6885			-	B 12x8x25	1	B 12x8x25	1	B 12x8x25
	B	009	11/N	Key DIN 6885			-	A 8x7x40	1	A 8x7x40	1	A 8x7x40
	B	009	12/N	Key DIN 6885			-	A 8x7x40	1	A 8x7x40	1	A 8x7x40
	B	009	13/N	Closing plug			1/2" gas	1	1/2" gas	1	1/2" gas	1
	B	009	14/N	Gasket			1/2" gas	1	1/2" gas	1	1/2" gas	1
	B	009	15/N	Oil seal DIN 3760			ADT A 35-62-7	1	ADT A 35-62-7	1	ADT A 40-72-10	1
	B	009	16/N	Cap			-	-	-	-	RCA 40-7	1

IEC Input

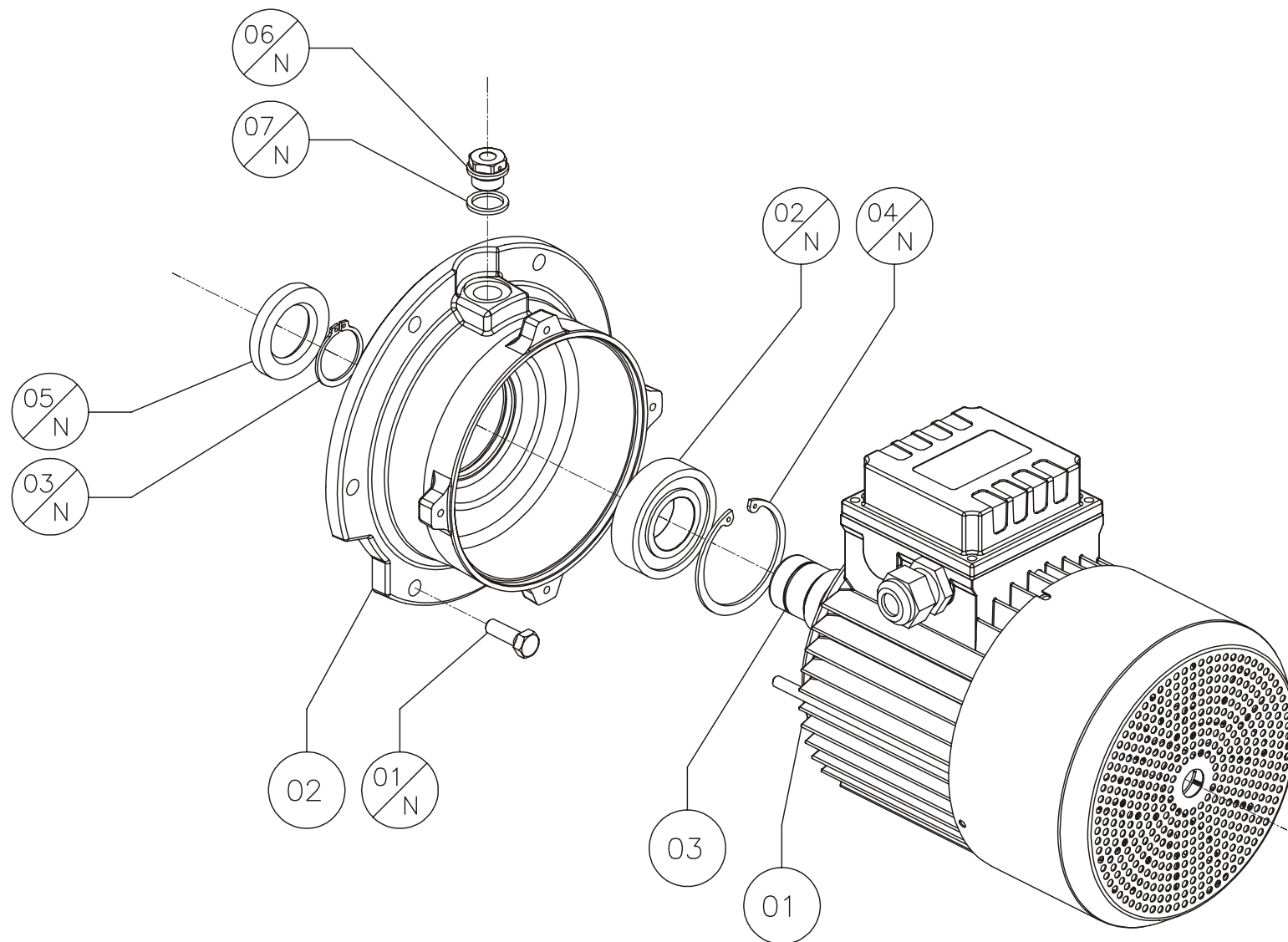
150	P	T	C	Built	090	100	112	132	160	180	200	225
	B	011	4	Motor sleeve				H.060.16	H.060.16	H.060.16	H.100.16	H.100.16
	B	011	5	Pinion 2st.				H.125.23	-	-	-	
	B	011	5	Pinion 2st. key				-	H.125.23	H.125.23	H.125.23	H.125.23
	B	011	6	Pinion hub 2st.				-	-	-	-	-
	B	011	6	Pinion hub 2st. key				-	H.100.22	H.100.22	H.100.22	H.100.22
	B	011	7	Spacer				-	ADS 62x50x3	ADS 62x50x3	ADS 75x60x3	ADS 75x60x3
	B	011	8	Ring				-	-	-	8.100.34	8.100.34

150	P	T	C	Commercial	090	100	112	132	160	180	200	225	
	B	011	1/N	Screw DIN 931				M12x35	8	M12x35	8	M12x35	8
	B	011	4/N	Screw DIN 931				-	-	-	M10x25	1	
	B	011	8/N	Circlip DIN471				-	40	40	40	40	
	B	011	10/N	Key DIN 6885				-	B 12x8x25	B 12x8x25	B 12x8x25	B 12x8x25	
	B	011	11/N	Key DIN 6885				-	A 8x7x40	A 8x7x40	A 8x7x40	A 8x7x40	
	B	011	12/N	Key DIN 6885				-	A 8x7x40	A 8x7x40	A 8x7x40	A 8x7x40	
	B	011	13/N	Closing plug				1/2" gas	1	1/2" gas	1	1/2" gas	
	B	011	14/N	Gasket				1/2" gas	1	1/2" gas	1	1/2" gas	
	B	011	15/N	Oil seal DIN 3760				ADT A 40-72-10	1	ADT A 50-72-8	1	ADT A 60-85-10	
	B	011	16/N	Cap				-	RCA 40-7	1	RCA 40-7	1	

NEMA Input

150	P	T	C	Built	140TC	180TC	210TC	250TC	280TC	320TC	360TC
	B	009	4	Reduction half coupling		H.060.14	H.060.14	H.060.14	H.100.14	H.100.14	H.140.14
	B	009	5	Pinion 2st.		H.125.23	H.125.23	H.125.23	H.125.23	H.125.23	H.125.23
	B	009	5	Pinion 2st. key		-	-	H.100.23	H.100.23	H.100.23	H.100.23
	B	009	6	Pinion hub 2st.		-	-	-	-	-	-
	B	009	6	Pinion hub 2st. key		-	-	H.100.22	H.100.22	H.100.22	H.100.22
	B	009	7	Spacer		-	ADS 62x50x3	ADS 62x50x3	ADS 62x50x3	ADS 62x50x3	ADS 62x50x3
	B	009	8	Ring		-	-	-	8.100.34	8.100.34	8.100.34

150	P	T	C	Commercial	140TC	180TC	210TC	250TC	280TC	320TC	360TC
	B	009	1/N	Screw DIN 931		M12x35	8	M12x35	8	M12x35	8
	B	009	4/N	Screw DIN 931		-	-	-	M10x25	1	M10x25
	B	009	8/N	Circlip DIN471		-	-	40	40	40	40
	B	009	10/N	Key DIN 6885		-	-	B 12x8x25	B 12x8x25	B 12x8x25	B 12x8x25
	B	009	11/N	Key DIN 6885		-	-	A 8x7x40	A 8x7x40	A 8x7x40	A 8x7x40
	B	009	12/N	Key DIN 6885		-	-	A 8x7x40	A 8x7x40	A 8x7x40	A 8x7x40
	B	009	13/N	Closing plug		1/2" gas	1	1/2" gas	1	1/2" gas	1
	B	009	14/N	Gasket		1/2" gas	1	1/2" gas	1	1/2" gas	1
	B	009	15/N	Oil seal DIN 3760		ADT A 35-62-7	1	ADT A 50-72-8	1	ADT A 60-85-8	1
	B	009	16/N	Cap		-	RCA 40-7	1	RCA 40-7	1	RCA 40-7



080 B11	P	T	C	Built	080		100		125		140		150	
	B	010	01	Casing	3.080.01		3.080.01							
	B	010	02	Flange	3.080.04.060		3.080.04.060							
	B	010	03	Shaft	3.080.18.6		3.080.18.6							
	P	T	C	Commercial	080		100		125		140		150	
	B	010	1/N	Screw DIN 931	M8x25	6	M8x25	6						
	B	010	2/N	Bearing	6206 2z	1	6206 2z	1						
	B	010	3/N	Circlip DIN 471	30	1	30	1						
	B	010	4/N	Circlip DIN 472	62	1	62	1						
	B	010	5/N	Oil seal DIN 3760	A 30-52-7	1	A 30-52-7	1						
	B	010	6/N	Breather plug	3/8" gas	1	3/8" gas	1						
B	010	7/N	Gasket	3/8" gas	1	3/8" gas	1							

090S B11	P	T	C	Built	080		100		125		140		150	
	B	010	01	Casing	3.090.01		3.090.01		3.090.01					
	B	010	02	Flange	3.090.04.060		3.090.04.060		3.090.04.100					
	B	010	03	Shaft	3.090.18.6		3.090.18.6		3.090.18.6					
	P	T	C	Commercial	080		100		125		140		150	
	B	010	1/N	Screw DIN 931	M8x25	6	M8x25	6	M12x35	6				
	B	010	2/N	Bearing	6206 2z	1	6206 2z	1	6206 2z	1				
	B	010	3/N	Circlip DIN 471	30	1	30	1	30	1				
	B	010	4/N	Circlip DIN 472	62	1	62	1	62	1				
	B	010	5/N	Oil seal DIN 3760	A 30-52-7	1	A 30-52-7	1	A 30-52-7	1				
	B	010	6/N	Breather plug	3/8" gas	1	3/8" gas	1	1/2" gas	1				
B	010	7/N	Gasket	3/8" gas	1	3/8" gas	1	1/2" gas	1					

090L B11	P	T	C	Built	080		100		125		140		150	
	B	010	01	Casing	3.091.01		3.091.01		3.091.01					
	B	010	02	Flange	3.090.04.060		3.090.04.060		3.090.04.100					
	B	010	03	Shaft	3.091.18.6		3.091.18.6		3.091.18.6					
	P	T	C	Commercial	080		100		125		140		150	
	B	010	1/N	Screw DIN 931	M8x25	6	M8x25	6	M12x35	6				
	B	010	2/N	Bearing	6206 2z	1	6206 2z	1	6206 2z	1				
	B	010	3/N	Circlip DIN 471	30	1	30	1	30	1				
	B	010	4/N	Circlip DIN 472	62	1	62	1	62	1				
	B	010	5/N	Oil seal DIN 3760	A 30-52-7	1	A 30-52-7	1	A 30-52-7	1				
	B	010	6/N	Breather plug	3/8" gas	1	3/8" gas	1	1/2" gas	1				
B	010	7/N	Gasket	3/8" gas	1	3/8" gas	1	1/2" gas	1					

100 B11	P	T	C	Built	080		100		125		140		150
	B	010	01	Casing	3.100.01		3.100.01		3.100.01		3.100.01		
	B	010	02	Flange	3.100.04.060		3.100.04.060		3.100.04.100		3.100.04.100		
	B	010	03	Shaft	3.100.18.6		3.100.18.6		3.100.18.6		3.100.18.6		
	P	T	C	Commercial	080		100		125		140		150
	B	010	1/N	Screw DIN 931	M8x25	6	M8x25	6	M12x35	6	M12x35	6	
	B	010	2/N	Bearing	6207 2z	1	6207 2z	1	6207 2z	1	6207 2z	1	
	B	010	3/N	Circlip DIN 471	35	1	35	1	35	1	35	1	
	B	010	4/N	Circlip DIN 472	72	1	72	1	72	1	72	1	
	B	010	5/N	Oil seal DIN 3760	A 35-62-7	1	A 35-62-7	1	A 35-62-7	1	A 35-62-7	1	
	B	010	6/N	Breather plug	3/8" gas	1	3/8" gas	1	1/2" gas	1	1/2" gas	1	
	B	010	7/N	Gasket	3/8" gas	1	3/8" gas	1	1/2" gas	1	1/2" gas	1	
	112 B11	P	T	C	Built	080		100		125		140	
B		010	01	Casing	3.112.01		3.112.01		3.112.01		3.112.01		
B		010	02	Flange	3.112.04.060		3.112.04.060		3.112.04.100		3.112.04.100		
B		010	03	Shaft	3.112.18.6		3.112.18.6		3.112.18.6		3.112.18.6		
P		T	C	Commercial	080		100		125		140		150
B		010	1/N	Screw DIN 931	M8x25	6	M8x25	6	M12x35	6	M12x35	6	
B		010	2/N	Bearing	6207 2z	1	6207 2z	1	6207 2z	1	6207 2z	1	
B		010	3/N	Circlip DIN 471	35	1	35	1	35	1	35	1	
B		010	4/N	Circlip DIN 472	72	1	72	1	72	1	72	1	
B		010	5/N	Oil seal DIN 3760	A 35-62-7	1	A 35-62-7	1	A 35-62-7	1	A 35-62-7	1	
B		010	6/N	Breather plug	3/8" gas	1	3/8" gas	1	1/2" gas	1	1/2" gas	1	
B		010	7/N	Gasket	3/8" gas	1	3/8" gas	1	1/2" gas	1	1/2" gas	1	
132M B11		P	T	C	Built	080		100		125		140	
	B	010	01	Casing	3.132.01		3.132.01		3.132.01		3.132.01		
	B	010	02	Flange	3.132.04.060		3.132.04.060		3.132.04.100		3.132.04.100		
	B	010	03	Shaft	3.132.18.6		3.132.18.6		3.132.18.6		3.132.18.6		
	P	T	C	Commercial	080		100		125		140		150
	B	010	1/N	Screw DIN 931	M8x25	6	M8x25	6	M12x35	6	M12x35	6	
	B	010	2/N	Bearing	6308 2z	1	6308 2z	1	6308 2z	1	6308 2z	1	
	B	010	3/N	Circlip DIN 471	40	1	40	1	40	1	40	1	
	B	010	4/N	Circlip DIN 472	90	1	90	1	90	1	90	1	
	B	010	5/N	Oil seal DIN 3760	A 40-72-10	1	A 40-72-10	1	A 40-72-10	1	A 40-72-10	1	
	B	010	6/N	Breather plug	3/8" gas	1	3/8" gas	1	1/2" gas	1	1/2" gas	1	
	B	010	7/N	Gasket	3/8" gas	1	3/8" gas	1	1/2" gas	1	1/2" gas	1	

132L B11	P	T	C	Built	080		100		125		140		150	
	B	010	01	Casing	3.132.01		3.132.01		3.132.01		3.132.01			
	B	010	02	Flange	3.132.04.060		3.132.04.060		3.132.04.100		3.132.04.100			
	B	010	03	Shaft	3.133.18.6		3.133.18.6		3.133.18.6		3.133.18.6			
	P	T	C	Commercial	080		100		125		140		150	
	B	010	1/N	Screw DIN 931	M8x25	6	M8x25	6	M12x35	6	M12x35	6		
	B	010	2/N	Bearing	6308 2z	1	6308 2z	1	6308 2z	1	6308 2z	1		
	B	010	3/N	Circlip DIN 471	40	1	40	1	40	1	40	1		
	B	010	4/N	Circlip DIN 472	90	1	90	1	90	1	90	1		
	B	010	5/N	Oil seal DIN 3760	A 40-72-10	1	A 40-72-10	1	A 40-72-10	1	A 40-72-10	1		
	B	010	6/N	Breather plug	3/8" gas	1	3/8" gas	1	1/2" gas	1	1/2" gas	1		
B	010	7/N	Gasket	3/8" gas	1	3/8" gas	1	1/2" gas	1	1/2" gas	1			



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