

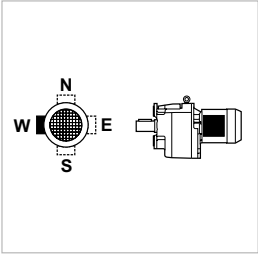
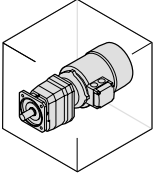
Input:

HS

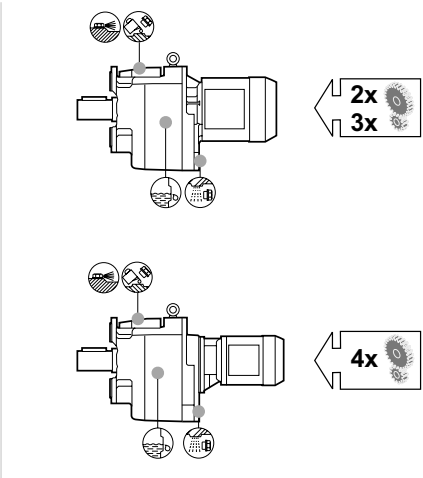
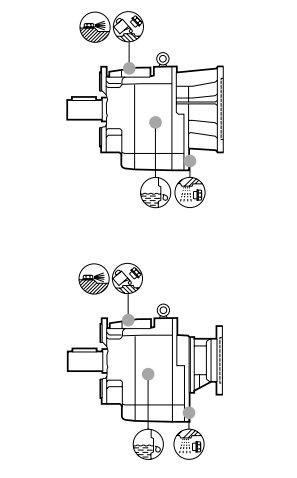
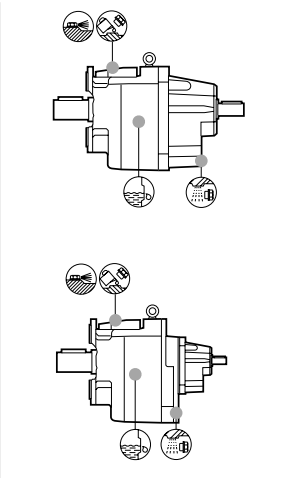
**P (IEC)
N (NEMA)**

S

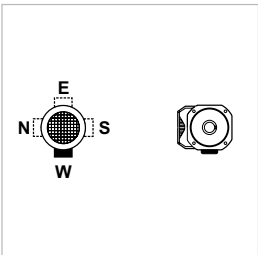
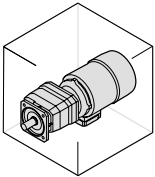
B5



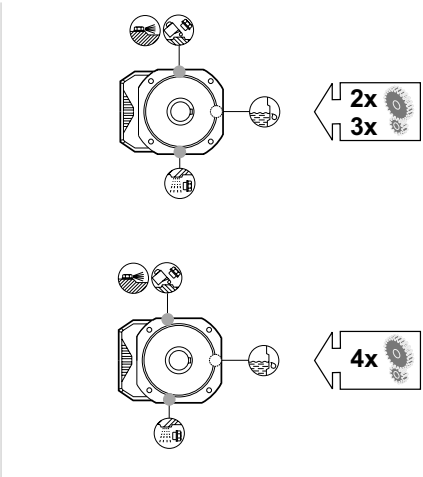
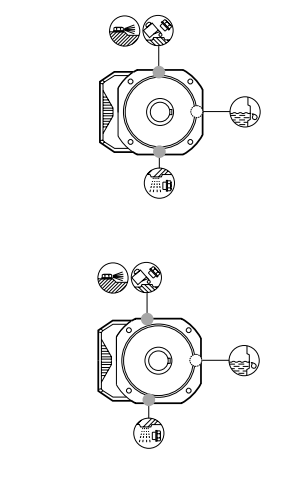
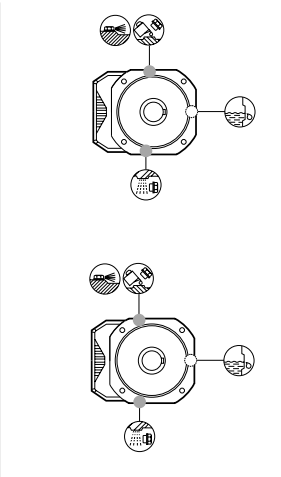
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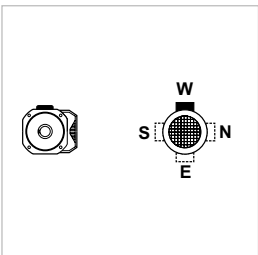
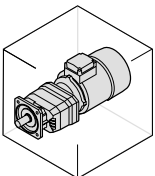
B51



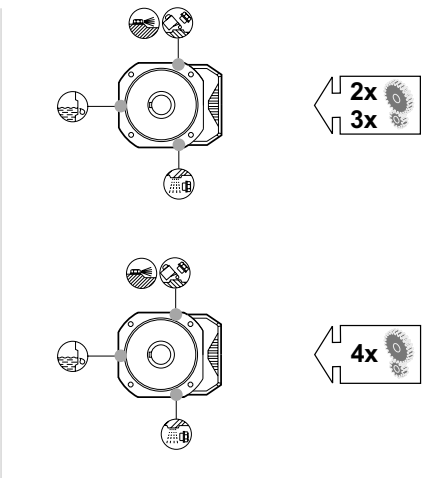
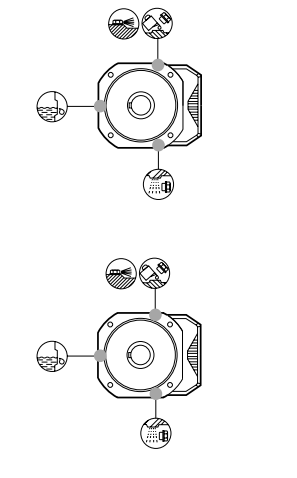
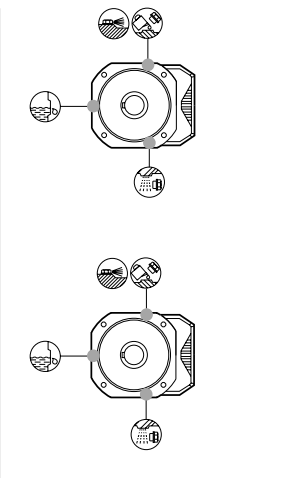
W = Default



B53



W = Default



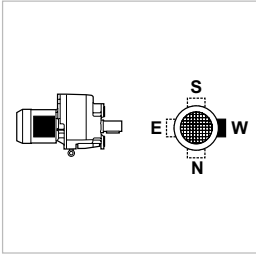
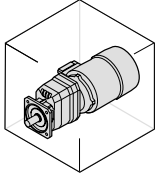
Input:

HS

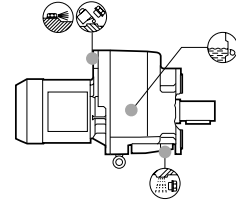
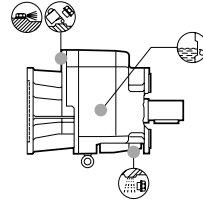
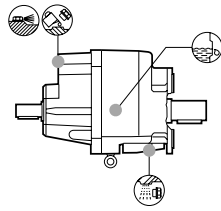
P (IEC)
N (NEMA)

S

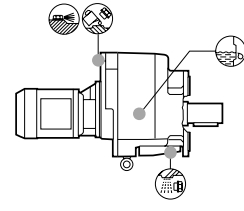
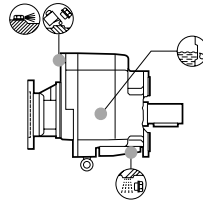
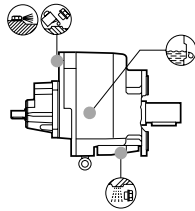
B52



W = Default

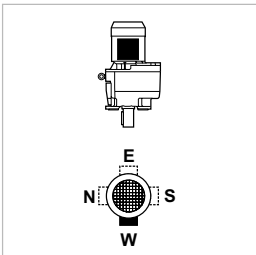
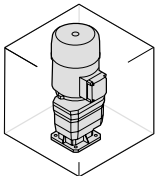


2x
3x

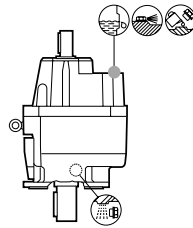


4x

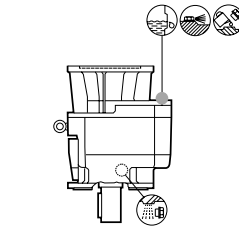
V1



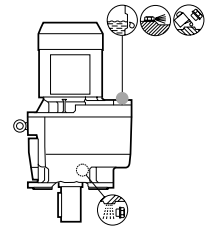
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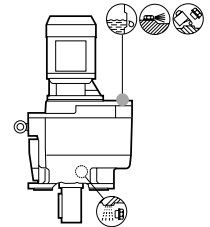
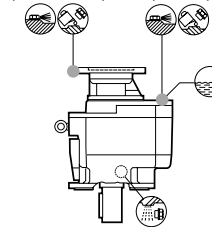
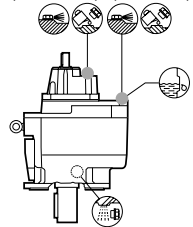
(C90, C100) (C70, C80)



(P63...P132) (P>132)

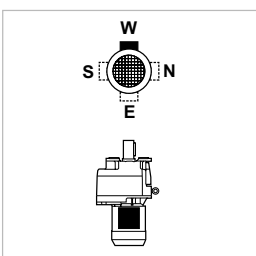
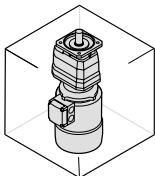


2x
3x

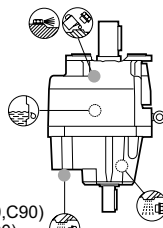


4x

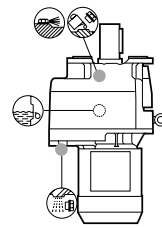
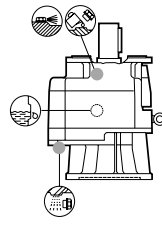
V3



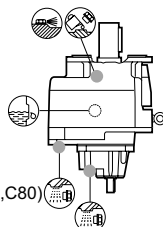
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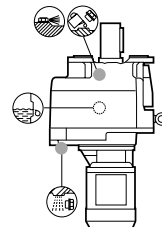
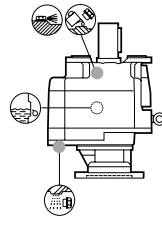
(C70, C90) (C100)



2x
3x



(C70, C80)



4x

(C90, C100)

2.8 OVERHUNG LOADS

Input and output shaft of speed reducer can be subject to loading generated by the transmission keyed on the shaft itself.

Overhung load can be calculated with the following formula where all factors are determined at shaft under study.

[N.B. (1) = input shaft; (2) = output shaft]

$$R_c = \frac{2 \times T \times K_r}{d}$$

R_c = overhung load in [lbs]

T = torque in [lb-in]

d = pitch diameter in inches of sprocket, pinion, sheave or pulley

K_r = transmission element factor

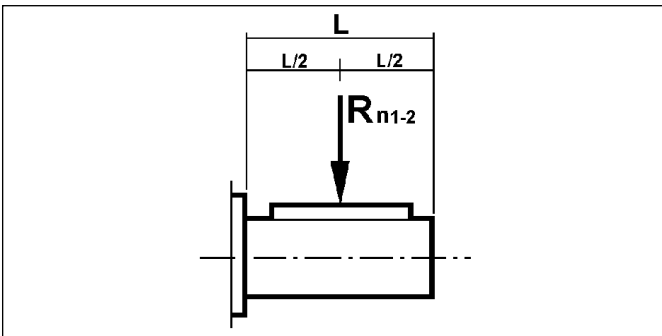
Sprocket (single or multiple strand)	1.0
Spur or helical pinion	1.25
V-belt sheave	1.50
Flat belt pulley	2.50

a) load R_{c1} or R_{c2} applied at midpoint of shaft as indicated in table (B4).

This value can be directly compared with rated OHL capacity by observing the condition:

$$R_{c1} \leq R_{n1} \quad ; \quad R_{c2} \leq R_{n2}$$

(B4)



b) load applied at distance "x" from shaft shoulder as shown in table (B5).

Conversion to the new permitted overhung load values R_{x1} and R_{x2} is obtained from the following equation:

$$R_{x1} = R_{n1} \times \frac{a}{b + "x"} \quad ; \quad R_{x2} = R_{n2} \times \frac{a}{b + "x"}$$

as long as $\frac{L}{2} < "x" < c$

R_{n1}, R_{n2} = permitted OHL on shaft mid-point [lbs] (radial load table)

a = load location factor

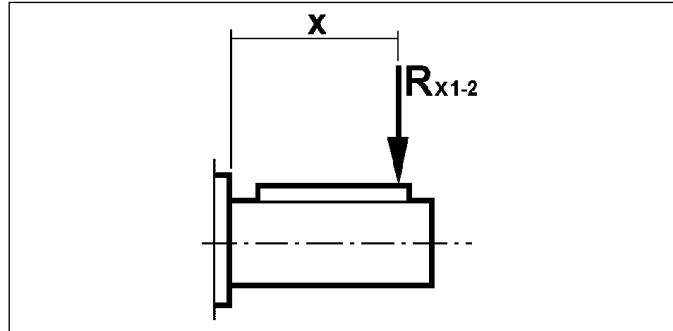
b = load location factor

c = load location factor

x = distance of load from shaft shoulder [in]

load location factors a, b, c are shown in table (B6).

(B5)



(B6)

	Load location factors [in]					
	Low speed shaft			High speed shaft		
	a	b	c	a	b	c
C 05 2	1.5	0.7	9.8	-	-	-
C 11 2	1.8	1.0	17.7	0.8	0	11.8
C 21 2	2.1	1.1	21.7	1.6	0.8	13.8
C 21 3	2.1	1.1	21.7	0.8	0	11.8
C 31 2	2.4	1.2	29.5	1.6	0.8	13.8
C 31 3	2.4	1.2	29.5	0.8	0	11.8
C 35 2 - C 35 3	2.7	1.4	31.5	2.0	1.0	17.7
C 35 4	2.7	1.4	31.5	1.6	0	11.8
C 41 2 - C 41 3	2.7	1.4	33.5	2.0	1.0	17.7
C 41 4	2.7	1.4	33.5	1.6	0.8	13.8
C 51 2 - C 51 3	3.0	1.4	35.4	2.0	1.0	17.7
C 51 4	3.0	1.4	35.4	1.6	0.8	13.8
C 61 2 - C 61 3	3.8	1.8	39.4	2.3	1.1	17.7
C 61 4	3.8	1.8	39.4	2.0	1.0	17.7
C 70 2 - C 70 3	4.5	2.1	47.2	3.4	1.2	39.4
C 70 4	4.5	2.1	47.2	1.9	1.0	17.7
C 80 2 - C 80 3	5.2	2.4	59.1	3.4	1.2	39.4
C 80 4	5.2	2.4	59.1	1.9	1.0	17.7
C 90 2 - C 90 3	6.3	3.0	78.7	4.6	1.8	55.1
C 90 4	6.3	3.0	78.7	1.9	1.0	17.7
C 100 2 - C 100 3	6.4	2.3	98.4	4.6	1.8	55.1
C 100 4	6.4	2.3	98.4	1.9	1.0	17.7

Overhung load capacity of output shaft, R_{n2}

Rated values for radial load referred to mid-point of the output shaft are listed in the gearmotor and speed reducer rating charts. They are based on transmitted torque T_2 and rated torque T_{n2} respectively and for the most unfavourable condition as far as the load angle and rotation direction.

If permitted values are below required values, please consult our Technical Service Department reporting the load angle and shaft rotation direction.

Overhung load capacity of input shaft, R_{n1}

These values which are shown in the speed reducer selection charts refer to input speed and are calculated at mid-point of the input shaft.

If permitted values are below required values, please consult our Technical Service reporting load orientation and shaft rotation direction.

Thrust loads, A_{n1} A_{n2}

Maximum permitted thrust loads can be calculated as follows:

$$A_{n1} = R_{n1} \cdot 0.2$$

$$A_{n2} = R_{n2} \cdot 0.2$$

If thrust load exceeds permitted value, consult our Technical Service.