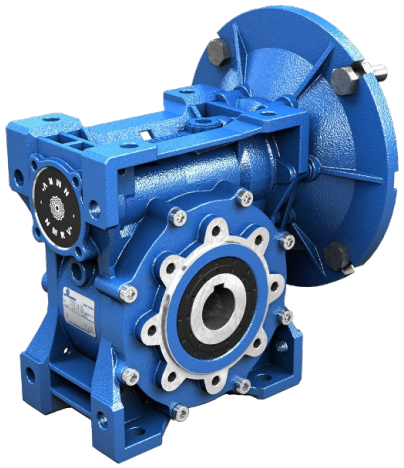
PRODUCT DATASHEET

VSF SERIES



WORM**GEAR**REDUCER

DATE 27.05.2026

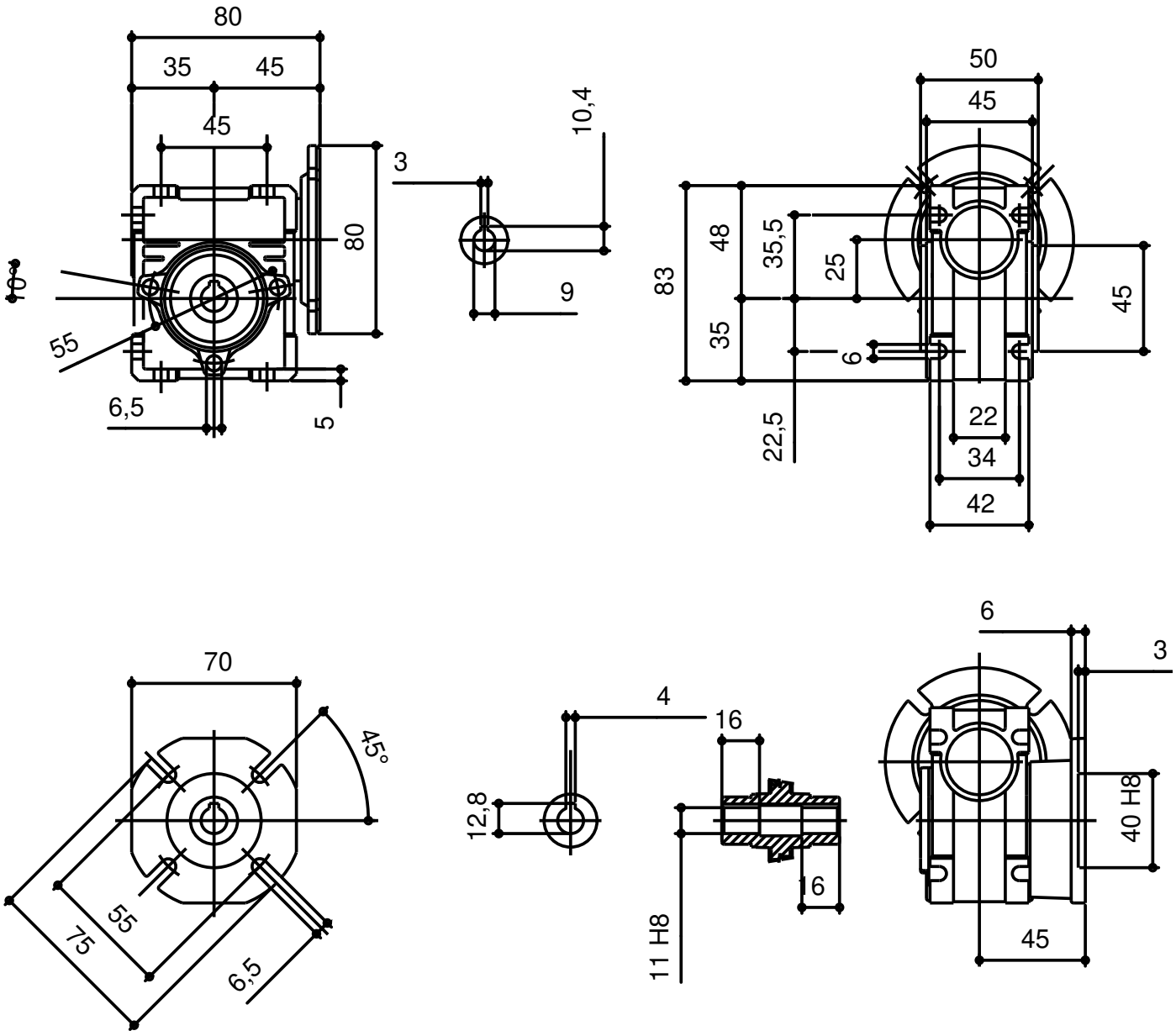
MOTOVARIO®
HEART OF MOTION
a TECO Group company

CONFIGURATION

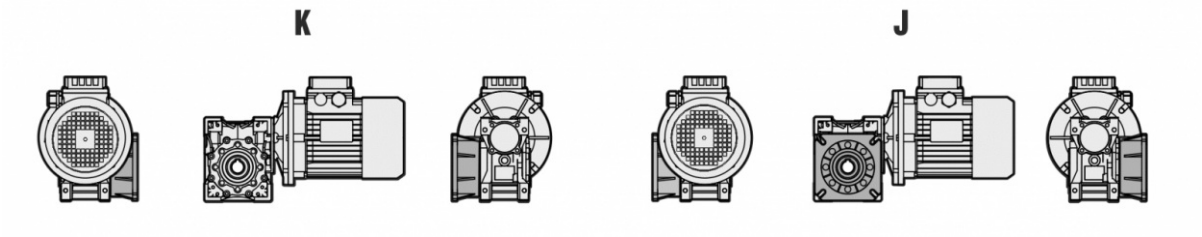
CHARACTERISTIC	VALUE
Regulations	No
Worm	PAM NMRV
Size	025
Ratio (i)	15,0
Input Dim.	Ø80x9 (IEC56 B14)
Hollow Output Shaft Dim.	Ø11
Double-Extended Worm Shaft	No
Mounting Position	U
VI-Output Oil Seal	NBR-Nitrile
VI-Input Oil Seal	ACM-Polyacrylate
VI-Output Bearings	Ball Bearings
VI-Lubrication	Synthetic ISO VG320
Paint	Not Painted

DRAWINGS

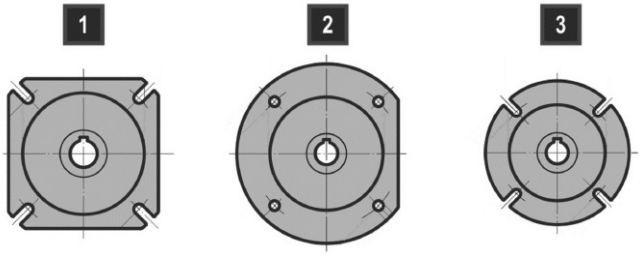
Values expressed in [mm]



DRAWINGS



Unless specified otherwise, the reduction unit is supplied with the flange in pos. J referred to position B3.



	NMRV - SW	NMRV - SW	NMRV - SW	NMRV-P - SW	NMRV-P - SW	NMRV-P - SW	SW	NMRV-P	NMRV	NMRV
	030	040	050	063	075	090	105	110	130	150
FA	1	1	1	1	1	1	1	1	1	1
FB	-	1	1	1	3	2	1	1	-	-
FC	-	2	2	2	-	3	-	-	-	-
FD	-	2	2	2	-	1	-	-	-	-
FE	-	-	-	3	-	-	-	-	-	-

DRAWINGS

The values reported in the tables are referred to the weight of the gearbox with lubricant included.
Weight without motor.

NMRV - NMRV-P (~ kg)									
025	030	040	050	063	075	090	110	130	150
0,7	1,2	2,3	3,5	6,2	9	13	21	43,5	84

NRV - NRV-P (~ kg)									
030	040	050	063	075	090	110	130	150	
1	2	3,3	5,8	8,8	13	21	43,5	77	

	HA31+NMRV040 (~ kg)	HA31+NMRV050 (~ kg)
063	4,2	5,4
071	4,3	5,5
080	4,5	5,7

056/063/071/080		063/071/080/090	
NMRV-P063/HW030 (~ kg)	NMRV-P075/HW030 (~ kg)	NMRV-P090/HW040 (~ kg)	NMRV-P110/HW040 (~ kg)
7,1	10	14,6	24,4

NMRV-P090/IHW040 (~ kg)	NMRV-P110/IHW040 (~ kg)
14,6	38,4

NMRV+NMRV - NMRV+NMRV-P - NMRV-P+NMRV - NMRV-P+NMRV-P (~ kg)													
025-030	025-040	030-040	030-050	030-063	040-050	040-063	040-075	040-090	050-090	050-110	063-110	063-130	063-150
1,9	3	3,5	4,7	7,4	5,8	8,5	11,3	15,3	16,5	38,5	41,2	54,2	90,2

NRV+NMRV - NRV+NMRV-P - NRV-P+NMRV - NRV-P+NMRV-P (~ kg)											
030-040	030-050	030-063	040-050	040-063	040-075	040-090	050-090	050-110	063-110	063-130	063-150
3,5	4,7	7,4	5,8	8,5	11,3	15,3	16,5	38,5	41,2	54,2	90,2

The values reported in the tables are referred to the weight of the gearbox with lubricant included.
Weight without motor.

SW (~ kg)						
030	040	050	063	075	090	105
1,2	2,3	3,5	6,2	9	13	21

ISW (~ kg)						
030	040	050	063	075	090	105
1	2	3,3	5,8	8,8	13	21

	HA31+SW040 (~ kg)	HA31+SW050 (~ kg)	HA31+SW063 (~ kg)	HA31+SW075 (~ kg)	HA31+SW090 (~ kg)
063	4,2	5,4	8,1	10,9	14,9
071	4,3	5,5	8,2	11,0	15,0
080	4,5	5,7	8,4	11,2	15,2

SW+SW (~ kg)					
030-040	030-050	030-063	040-075	040-090	050-105
3,5	4,7	7,4	11,3	15,3	38,5

ISW+SW (~ kg)					
030-040	030-050	030-063	040-075	040-090	050-105
3,5	4,7	7,4	11,3	15,3	38,5

PERFORMANCES

ISW030

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	25	15,00	0,12	33,0	210	1213
900	21	15,00	0,18	60,0	197	997
1140	20	15,00	0,21	76,0	197	922
1400	19	15,00	0,24	93,0	169	861
1750	18	15,00	0,28	117,0	169	799
2800	13	15,00	0,31	187,0	140	683

ISW040

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	61	15,00	0,28	33,0	350	2335
900	50	15,00	0,40	60,0	350	1920
1140	47	15,00	0,46	76,0	350	1774
1400	44	15,00	0,52	93,0	344	1657
1750	42	15,00	0,62	117,0	343	1538
2800	31	15,00	0,71	187,0	291	1315

ISW050

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	113	15,00	0,51	33,0	490	3205
900	92	15,00	0,72	60,0	490	2635
1140	86	15,00	0,84	76,0	490	2435
1400	81	15,00	0,95	93,0	490	2274
1750	77	15,00	1,13	117,0	490	2111
2800	57	15,00	1,30	187,0	399	1805

ISW063

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	200	15,00	0,90	33,0	700	4190
900	171	15,00	1,31	60,0	700	3444
1140	159	15,00	1,52	76,0	700	3183
1400	150	15,00	1,75	93,0	660	2973
1750	140	15,00	2,02	117,0	646	2759
2800	109	15,00	2,45	187,0	516	2359

PERFORMANCES

ISW075

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	318	15,00	1,39	33,0	980	4945
900	264	15,00	2,00	60,0	980	4065
1140	250	15,00	2,36	76,0	980	3757
1400	230	15,00	2,61	93,0	979	3509
1750	215	15,00	3,03	117,0	962	3257
2800	165	15,00	3,66	187,0	795	2785

ISW090

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	539	15,00	2,29	33,0	1270	5472
900	462	15,00	3,41	60,0	1270	4498
1140	429	15,00	3,96	76,0	1270	4157
1400	396	15,00	4,45	93,0	1257	3882
1750	376	15,00	5,26	117,0	1257	3604
2800	270	15,00	5,93	187,0	1034	3081

ISW105

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	844	15,00	3,55	33,0	1270	6914
900	673	15,00	4,92	60,0	1270	5684
1140	627	15,00	5,76	76,0	1270	5253
1400	581	15,00	6,53	93,0	1270	4905
1750	552	15,00	7,69	117,0	1270	4554
2800	406	15,00	8,82	187,0	1270	3893

NRV030

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	25	15,00	0,12	33,0	210	1213
900	21	15,00	0,18	60,0	197	997
1140	20	15,00	0,21	76,0	197	922
1400	19	15,00	0,24	93,0	169	861
1750	18	15,00	0,28	117,0	169	799
2800	13	15,00	0,31	187,0	140	683

PERFORMANCES

NRV040

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	61	15,00	0,28	33,0	350	2335
900	50	15,00	0,40	60,0	350	1920
1140	47	15,00	0,46	76,0	350	1774
1400	44	15,00	0,52	93,0	344	1657
1750	42	15,00	0,62	117,0	343	1538
2800	31	15,00	0,71	187,0	291	1315

NRV050

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	113	15,00	0,51	33,0	490	3205
900	92	15,00	0,72	60,0	490	2635
1140	86	15,00	0,84	76,0	490	2435
1400	81	15,00	0,95	93,0	490	2274
1750	77	15,00	1,13	117,0	490	2111
2800	57	15,00	1,30	187,0	399	1805

NRV-P063

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	200	15,00	0,90	33,0	700	4190
900	171	15,00	1,31	60,0	700	3444
1140	159	15,00	1,52	76,0	700	3183
1400	150	15,00	1,75	93,0	660	2973
1750	140	15,00	2,02	117,0	646	2759
2800	109	15,00	2,45	187,0	516	2359

NRV-P075

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	318	15,00	1,39	33,0	980	4945
900	264	15,00	2,00	60,0	980	4065
1140	250	15,00	2,36	76,0	980	3757
1400	230	15,00	2,61	93,0	979	3509
1750	215	15,00	3,03	117,0	962	3257
2800	165	15,00	3,66	187,0	795	2785

PERFORMANCES

NRV-P090

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	539	15,00	2,29	33,0	1270	5472
900	462	15,00	3,41	60,0	1270	4498
1140	429	15,00	3,96	76,0	1270	4157
1400	396	15,00	4,45	93,0	1257	3882
1750	376	15,00	5,26	117,0	1257	3604
2800	270	15,00	5,93	187,0	1034	3081

NRV-P110

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	909	15,00	3,82	33,0	1700	6914
900	759	15,00	5,54	60,0	1700	5684
1140	707	15,00	6,50	76,0	1700	5253
1400	656	15,00	7,37	93,0	1604	4905
1750	623	15,00	8,69	117,0	1604	4554
2800	489	15,00	10,62	187,0	1337	3893

NRV130

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	1300	15,00	5,47	33,0	2100	9043
900	1060	15,00	7,83	60,0	2100	7434
1140	990	15,00	9,27	76,0	2100	6871
1400	920	15,00	10,33	93,0	2070	6416
1750	874	15,00	12,27	117,0	2070	5956
2800	670	15,00	14,71	187,0	1725	5092

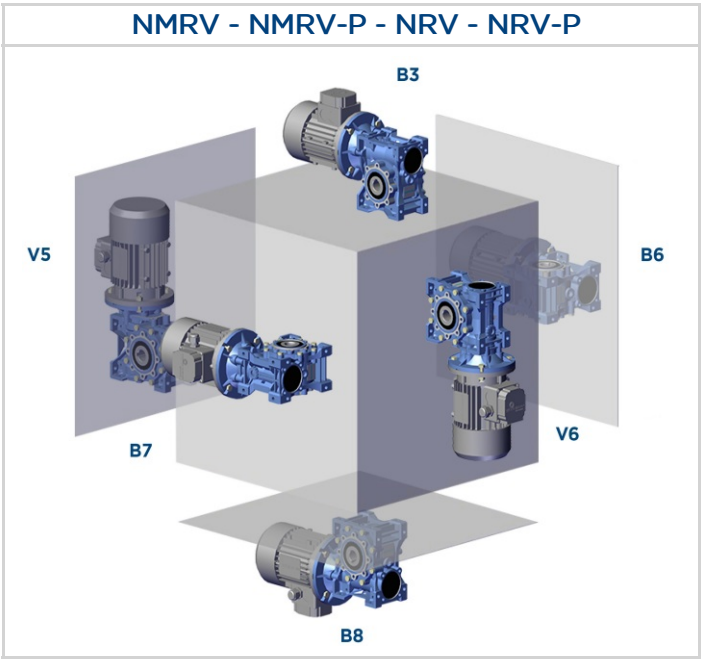
NRV150

n_1 [rpm]	Mn_2 [Nm]	i	Pn_1 [kW]	n_2 [rpm]	Fr_1 [N]	Fr_2 [N]
500	1730	15,00	7,19	33,0	2800	12363
900	1450	15,00	10,47	60,0	2645	10163
1140	1450	15,00	13,26	76,0	2645	9393
1400	1250	15,00	13,88	93,0	2285	8771
1750	1187	15,00	16,49	117,0	2285	8143
2800	910	15,00	19,76	187,0	1889	6962

MOUNTING POSITIONS

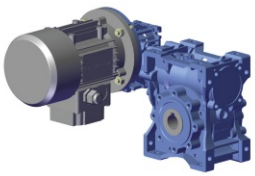
The mounting position of the gear unit identifies its space orientation. B3 mounting position, as from a technical point of view, ensures lower oil splash, better lubrication and less heating.

NMRV - NMRV-P - NRV - NRV-P



Execution

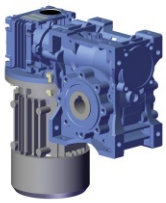
NMRV/NMRV-P+NMRV/NMRV-P - NRV/NRV-P+NMRV/NMRV-P


AS1

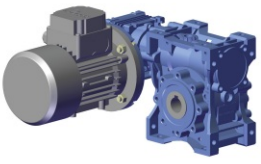

AS2

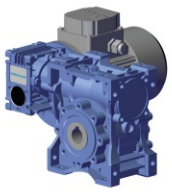

VS1


VS2


PS1


PS2


BS1


BS2

LUBRICANT

- The gear reducers size 025 - 030 - 040 - 050 - 063 - 075 - 090 - 105 - 110 - 130 - 150 are supplied complete with lubricant for life, synthetic oil, LAND OIL GEAR SINT. They can be mounted in any position envisaged in the catalogue, except for NMRV-P/SW 090 - 110 and NRV-P/ISW 075-090-110 for which you must to specify the mounting position.
- For sizes 130 and 150 it is necessary to specify the position, otherwise the gear reducers are supplied with the quantity of oil relating to pos. B3.
- Only reduction units 130 and 150 are fitted with breather, level and oil drainage plugs.
- The pre-stage helical modules are supplied complete with life-long lubricant, synthetic oil, LAND OIL GEAR SINT. Lubrication is separated from that of the worm gear reducers.

It is recommended, after installation, to replace the closed plug used for transportation with the supplied breather plug.

Quantity of oil in litres ~

NMRV	025	030	040	050	130	150
B3	0,02	0,04	0,08	0,15	4,5	7
B8					3,3	5,1
B6-B7					3,5	5,4
V5					4,5	7
V6					3,3	5,1

NMRV-P	063	075	090	110
B3	0,33	0,55	1,15	1,6
B8				
B6-B7				
V5				
V6				

SW	030	040	050	063	075	090	105
B3	0,04	0,08	0,15	0,3	0,55	1	1,6
B8							
B6-B7							
V5							
V6							

HW	HW030		HW040	
	NMRV-P063	NMRV-P075	NMRV-P090	NMRV-P110
B3-B6-B7-B8-V5-V6	0,06	0,09	0,11	0,12

H	A31
B3-B5	0,07

LUBRICANT

NMRV	063	075	090	105	110
B3	0,3	0,55	1	1,6	3
B8					2,2
B6-B7					2,5
V5					3
V6					2,2

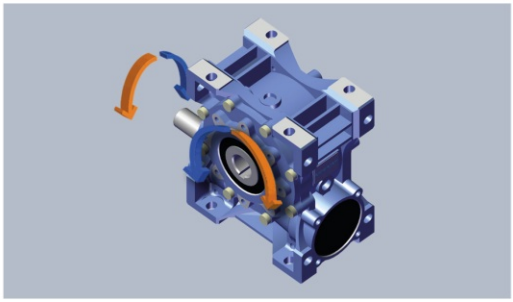
DIRECTION OF ROTATION

The worm screw rotation is right-handed.

DIRECTION OF ROTATION - HIGH SPEED SHAFT

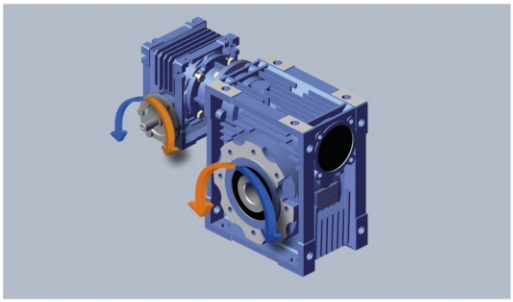
NMRV - NRV - SW - ISW

MOUNTING POSITION **B3**

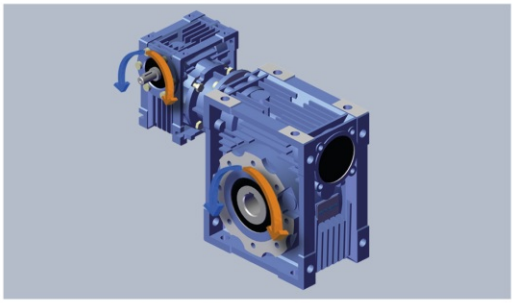


MOUNTING POSITION **B8**

NMRV + NMRV – SW + SW - NRV + NMRV – ISW + SW



MOUNTING POSITION **BS1**



MOUNTING POSITION **AS1**