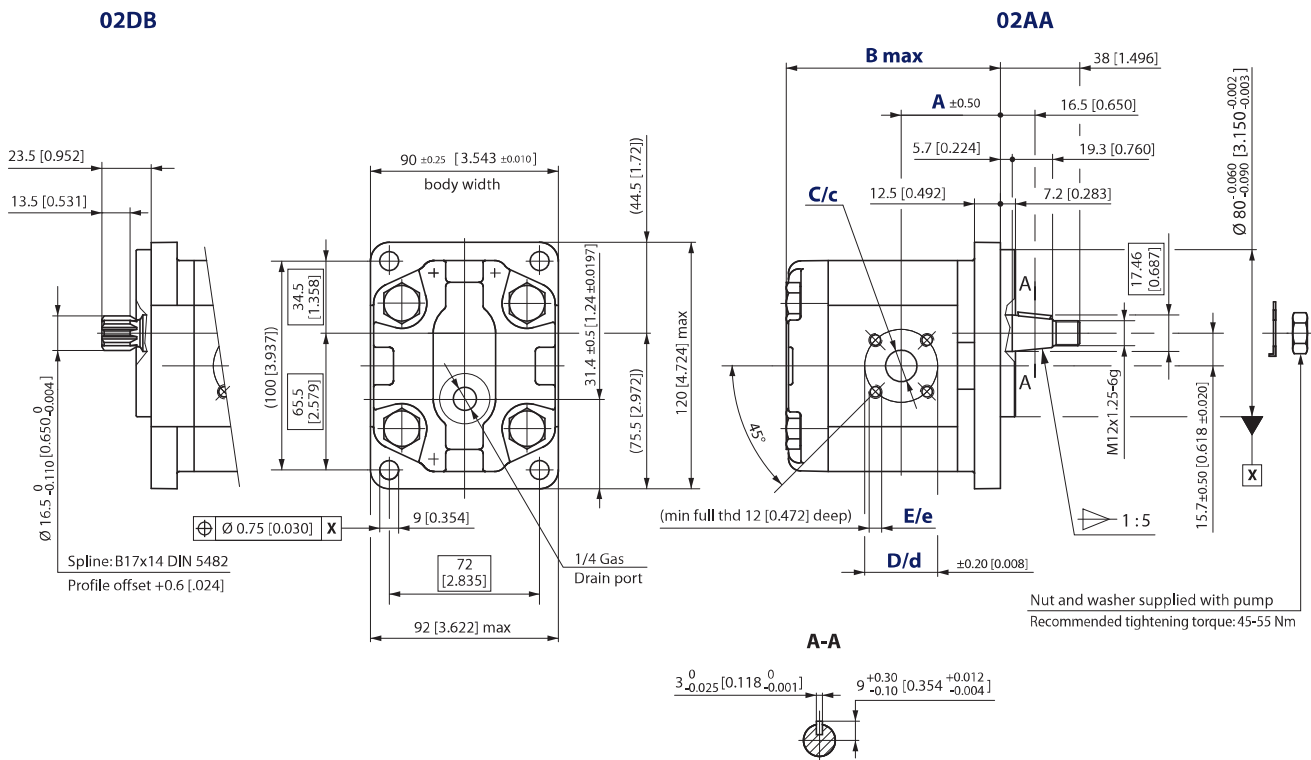




**SNM2NN, SNU2NN – 02DB and 02AA**  
Standard porting drawing for 02DB and 02AA

mm  
[in]



For unidirectional motors no case drain hole into the rear cover.

**Bidirectional motors dimensions – 02DB and 02AA**

Frame size	6,0*	8,0	011	<del>014</del>	017	019	022	025	
Dimension	A	41.1 [1.618]	43.1 [1.697]	47.5 [1.870]	47.5 [1.870]	47.5 [1.870]	55 [2.165]	64.5 [2.539]	
	B	96 [3.780]	100 [3.937]	104 [4.094]	110 [4.331]	114 [4.488]	118 [4.646]	124 [4.882]	128 [5.039]
Inlet/Outlet	C/c	15 [0.591]				20 [0.79]			
	D/d	35 [1.38]				40 [1.58]			
	E/e	M6							

\* Before choosing this frame size, please apply to Turolla technical department.

For unidirectional SNU2NN dimensions, see [SNU2NN ports](#), page 40.

**Model code examples and maximum shaft torque**

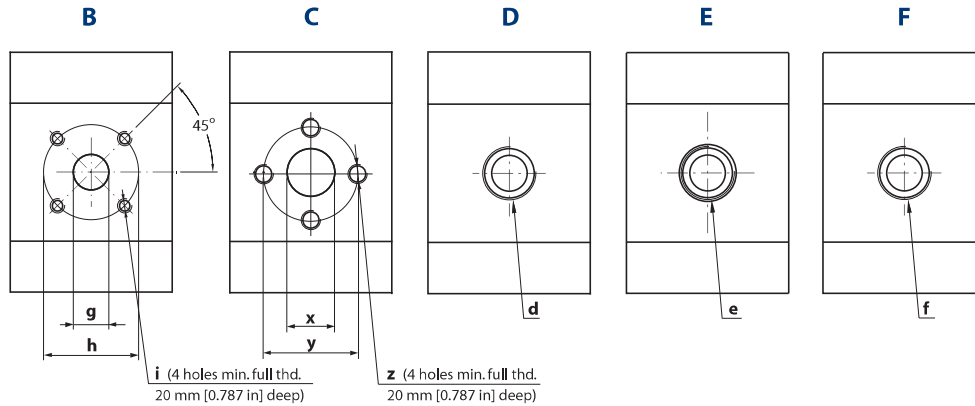
Flange/drive gear	Model code example	Maximum shaft torque
02DB	SNM2NN/025BN02DBM1B7B7NNNN/NNNNN	90 N·m [797 lb·in]
02AA	SNM2NN/8,0BN02AAM1B5B5NNNN/NNNNN	140 N·m [1239 lb·in]

For further details on ordering, see [Model Code](#), pages 30-35.



## Port dimensions

Available ports for Group 2 motors



## Bidirectional motor ports dimensions

SNM2NN bidirectional motors and SNM2GN, SNM2JN, SNM2IN motors made unidirectional only by the valve

Port type		B			C			D	E	F
Port dimensions		g	h	i	x	y	z	d	e	f
Frame size	6,0 Inlet/Outlet	15 [0.59]	35 [1.38]	M6	13.5 [0.53]	30 [1.18]	M6	M22x1.5	7/8-14UNF-2B	1/2 Gas (BSPP)
	8,0 Inlet/Outlet	15 [0.59]	35 [1.38]	M6	13.5 [0.53]	30 [1.18]	M6	M22x1.5	7/8-14UNF-2B	1/2 Gas (BSPP)
	011 Inlet/Outlet	15 [0.59]	35 [1.38]	M6	13.5 [0.53]	30 [1.18]	M6	M22x1.5	7/8-14UNF-2B	1/2 Gas (BSPP)
	014 Inlet/Outlet	15 [0.59]	35 [1.38]	M6	20 [0.79]	40 [1.58]	M8	M22x1.5	7/8-14UNF-2B	1/2 Gas (BSPP)
	017 Inlet/Outlet	15 [0.59]	35 [1.38]	M6	20 [0.79]	40 [1.58]	M8	M22x1.5	7/8-14UNF-2B	1/2 Gas (BSPP)
	019 Inlet/Outlet	20 [0.79]	40 [1.58]	M6	20 [0.79]	40 [1.58]	M8	M26x1.5	1-1/16-12UNF-2B	3/4 Gas (BSPP)
	022 Inlet/Outlet	20 [0.79]	40 [1.58]	M6	20 [0.79]	40 [1.58]	M8	M26x1.5	1-1/16-12UNF-2B	3/4 Gas (BSPP)
025 Inlet/Outlet	20 [0.79]	40 [1.58]	M6	23.5 [0.92]	40 [1.58]	M8	M26x1.5	1-1/16-12UNF-2B	3/4 Gas (BSPP)	
Drain		1/4 Gas (BSPP)						9/16-18UNF-2B		1/4 Gas (BSPP)

## Unidirectional motor ports dimensions

✗ SNU2NN and SKU2NN ports dimensions

Port type		B			C			D	E	F	
Port dimensions		g	h	i	x	y	z	d	e	f	
Frame size	8,0	Inlet	15 [0.59]	35 [1.38]	M6	13.5 [0.53]	30 [1.18]	M6	M18x1.5	1-1/16-12UNF-2B	1/2 Gas (BSPP)
		Outlet	20 [0.79]	40 [1.58]	M6	13.5 [0.53]	30 [1.18]	M6	M16x1.5	7/8-14UNF-2B	1/2 Gas (BSPP)
	011	Inlet	15 [0.59]	35 [1.38]	M6	13.5 [0.53]	30 [1.18]	M6	M18x1.5	1-1/16-12UNF-2B	3/4 Gas (BSPP)
		Outlet	20 [0.79]	40 [1.58]	M6	13.5 [0.53]	30 [1.18]	M6	M16x1.5	7/8-14UNF-2B	1/2 Gas (BSPP)
	014	Inlet	15 [0.59]	35 [1.38]	M6	13.5 [0.53]	30 [1.18]	M6	M18x1.5	1-1/16-12UNF-2B	3/4 Gas (BSPP)
		Outlet	20 [0.79]	40 [1.58]	M6	20 [0.79]	40 [1.58]	M8	M16x1.5	7/8-14UNF-2B	1/2 Gas (BSPP)
	017	Inlet	15 [0.59]	35 [1.38]	M6	13.5 [0.53]	30 [1.18]	M6	M18x1.5	1-1/16-12UNF-2B	3/4 Gas (BSPP)
		Outlet	20 [0.79]	40 [1.58]	M6	20 [0.79]	40 [1.58]	M8	M18x1.5	7/8-14UNF-2B	1/2 Gas (BSPP)
	019	Inlet	15 [0.59]	35 [1.38]	M6	13.5 [0.53]	30 [1.18]	M6	M18x1.5	1-1/16-12UNF-2B	3/4 Gas (BSPP)
		Outlet	20 [0.79]	40 [1.58]	M6	20 [0.79]	40 [1.58]	M8	M18x1.5	7/8-14UNF-2B	1/2 Gas (BSPP)
	022	Inlet	15 [0.59]	35 [1.38]	M6	13.5 [0.53]	30 [1.18]	M6	M18x1.5	1-1/16-12UNF-2B	3/4 Gas (BSPP)
		Outlet	20 [0.79]	40 [1.58]	M6	20 [0.79]	40 [1.58]	M8	M18x1.5	7/8-14UNF-2B	1/2 Gas (BSPP)
	025	Inlet	15 [0.59]	35 [1.38]	M6	13.5 [0.53]	30 [1.18]	M6	M18x1.5	1-1/16-12UNF-2B	1 Gas (BSPP)
		Outlet	20 [0.79]	40 [1.58]	M6	20 [0.79]	40 [1.58]	M8	M18x1.5	7/8-14UNF-2B	3/4 Gas (BSPP)



Product Code  
Model Code

**SNU2NN 014 L N 02 AA P1 B5 B7 N A / NNN N N**

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SNU2NN	014													

## A Family

SEM2DN	Low Cost Gr2 Bidir.Motor-int.drain
SEM2NL	Low Cost Gr2 Bidirec.Motor-vert.drain
SEM2NN	Low Cost Gr2 Bidirec.Motor
SHM2GL	Hi.Press.Gr2 Bid.Mot.+Antic.Check Val-Vert.drain
SHM2IN	Hi.Press.Gr2 Bidir.Motor+Int.drain RV
SHM2NL	Hi.Press.Gr2 Bidirec.Motor-Vert.drain
SHM2NN	Hi.Press. Gr2 Bidirec.Motor
SHU2GN	Hi.Press. Gr2 Unidir.Motor+Anticav.Check valve
SHU2NN	High Press. Gr2 Unidir.Motor
SKU2NN	Big shaft GR2 Unidir.Motor
SNM2DN	Gr2 Bidir.Motor-Int.Drain
SNM2FL	Gr2 Bidir.Motor+Break.Valve-Vert.drain-Special
SNM2FN	Gr2 Bidir.Motor+Break.Valve-Special
SNM2GC	Gr2 Bidir.Motor+Anticav.Check Val.-Ax.drain
SNM2GL	Gr2 Bidir.Motor-Anticav.Check Val.-vert.drain
SNM2GN	Gr2 Bidir.Motor-Anticav.Check Valve
SNM2IL	Gr2 Bidir.Motor+Int.drain RV-Vert.drain

SNM2IN	Gr2 Bidir.Motor+Int.drain RV
SNM2JN	Gr2 Bid.Motor+Int.drain RV+Anticav.Check Valve
SNM2NC	Gr2 Bidir.Motor-Cover Ports-Ax.drain
SNM2NL	Gr2 Bidir.Motor-Vert.drain
SNM2NN	Gr2 Bidir.Motor
SNM2SN	Gr2 Bidir.Motor+by-pass electric valve-Special
SNU2EN	Gr2 Unidir.Motor+Ext.drain RV
SNU2GN	Gr2 Unidir.Motor+Anticav.Check Valve
SNU2GC	Gr2 Unidir.Motor-In./Out. on Cover+Anticav.Check Valve
SNU2IN	Gr2 Unidir.Motor+Int.drain RV
SNU2JN	Gr2 Unidir.Motor+Int.drain RV+Anticav.Check Valve
SNU2NC	Gr2 Unidir.Motor-In.-Out.on cover
<del>SNU2NN</del>	Gr2 Unidir.Motor
SNU2QN	Gr2 Unid.Motor-Ext.drain RV+Anticav.Check Valve
SNU2TN	Gr2 Unidir.Motor-Break.Valve as Anticav.Valve-Special

## B Displacement

5,5	5,5 cc -Special
6,0	6,0 cc -Special
8,0	8,4 cc
9,0	9,0 cc -Special
9,5	9,5 cc -Special

011	10,8 cc
012	12,0 cc -Special
<del>014</del>	14,4 cc
017	16,8 cc
019	19,2 cc

021	21,0 cc -Special
022	22,8 cc
025	25,2 cc



A B C D E F G H I J K L M N O

		L	N	02								/				

**C Rotation**

B	Bidirectional
<del>L</del>	Unidirectional Left hand
R	Unidirectional Right hand

**D Project version (value representing a change to the initial project)**

<del>N</del>	Std Version of Project
2	Std Big-Shaft - Special Unbalanced
4	Precharged seal on cover-Special heavy-duty applications
6	Short version - Special

**E Mounting flange**

01	pilot Ø36,5+4 holes
<del>02</del>	pilot Ø80+4 holes
03	pilot Ø52+O-ring+4 holes through body
04	pilot Ø50+2 holes through body
05	pilot Ø50+2 holes through body
06	SAE A pilot Ø82,55+2 holes
B2	pilot Ø80+4 holes+special shaft seal slot - Special
L5	pilot Ø52 spigot Diameter+O-Ring+4 holes through body - Special
Q2	pilot Ø80+4 holes+fastening holes Ø10,5mm- Special
91	Outrigger Bearing Type 01+taper shaft 1:8-M12x1,25-Key4
92	Outrigger Bearing Type 02+taper shaft 1:5-M12x1,25-Key3
94	Outrigger Bearing Type 04+taper shaft 1:5-M12x1,25-Key3
9A	Outrigger Bearing Type 01+taper shaft 1:8-M12x1,25-Key3.2
9D	Outrigger Bearing Type 01+parallel shaft Ø15-Key4
9F	Outrigger Bearing Type 02+taper shaft 1:5-M14x1,5-Key4+special shaft seal RZB
9G	Outrigger Bearing Type 04+taper shaft 1:5-M12x1,25-Key3 + 4 M10 assembly thd holes "HELI-COIL- Special
9H	Outrigger Bearing Type 06+taper shaft 1:8-M12x1,25-Key4
9J	Outrigger Bearing Type 06 with parallel shaft Ø3/4 (Ø19.05 mm)
9L	Outrigger Bearing Type 01 parallel shaft Ø22 pilot Ø50,8
9M	Outrigger Bearing Type 01 parallel shaft Ø18 pilot Ø36,5



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	AA	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □

## F Drive gear

<del>AA</del>	Taper 1:5-M12x1,25-Key 3
AC	Taper 1:5-M14x1,5-Key 4
AD	Taper 1:5-M12X1,25-Key 3-Drive - Special for Version 6
B1	Taper 1:8-M12x1,25-Key 4/6 lowered
BA	Taper 1:8-M12x1,25-Key 4
BB	Taper 1:8-M12x1,25-Key 4/3,2
BJ	Taper 1:8-M12x1,25-Key 4/3 black steel
CA	Tang 8x17,8xL6,5 FR03
CF	Tang 8x Ø17,46xL9,6-Special
DA	Spline DIN 5482 B17x14-L10
DB	Spline DIN 5482 B17x14-L14
DL	Spline DIN 5482 B17x14-L14+rear spline DIN 5482 17x14-L14 SC32..._2 - Special
EC	Spline DIN 5480 W20x1,25x14-9g - Special
FA	Parallel Ø15-L30+Key 4x25
GA	Parallel SAE Ø15,875-L23,8-Key 4x18
GB	Parallel SAE Ø15,875-L50,8-Key 4x40
GC	Parallel SAE Ø17,46-L24,4-Key 3/16x3/16xL20 - Special
SA	Spline SAE J498-9T-16/32
SB	Spline SAE J498-11T-16/32 -Special only for Version 2
SE	Spline SAE J498-9T-16/32+M6 thd hole
SF	Spline SAE J498-9T-16/32-reinforced fillet
SG	Spline SAE J498-11T-16/32-Special only for Version 2
SI	Spline SAE J498-11T-16/32-Special only for Version 2
TC	Spline SAE 13T-20/40-Special



## G Rear cover

<b>C7</b>	Cover for unidirec. motors front SAE ports: Inlet 3/4-16UNF-2B;Outlet 3/4-16UNF-2B	<b>LS</b>	Cover motor-drain at 22° left 7/16-20UNF-2B drive gear side
<b>E1</b>	Cover for unidirectional motors with relief valve - external drain 3/8 Gas	<b>LT</b>	Cover motor-drain in vertical axis 1/4 Gas for flange typo 03 drive gear side
<b>E6</b>	Cover for unidirectional motors with Relief Valve ext.drain 3/4-16UNF-2B	<b>LX</b>	Cover motor-drain in vertical axis 9/16-18UNF-2B drive gear side
<b>F1</b>	Cover motor per braking valve and drain 1/4 Gas	<b>LZ</b>	Cover motor-drain in vertical axis 1/4 Gas drive gear side
<b>F6</b>	Cover motor per braking valve and drain 9/16-18UNF-2B	<b>M1</b>	Std cover motor drain 1/4 Gas driven side
<b>G1</b>	Cover motor front ports:Inlet 1/2 G;Outlet 1/2 G;Drain 1/4 G	<b>M3</b>	Std cover motor drain 1/4 Gas for flange typo 03
<b>G6</b>	Cover motor front ports:Inlet 7/8-14UNF;Outlet 7/8-14UNF;Drain 9/16-18UNF	<b>M4</b>	Std cover motor drain 9/16-18UNF-2B for flange typo 03
<b>I1</b>	Cover for unidirectional motors with RV	<b>M6</b>	Std cover motor drain 9/16-18UNF-2B
<b>J1</b>	Cover motor per braking valve with drain in vertical axis 1/4 G	<b>M7</b>	Std cover motor-drain 1/4 Gas drive side
<b>J6</b>	Cover motor per braking valve with side drain in vertical axis 9/16-18UNF-2B	<b>M8</b>	Special intermediate motor flange typo 01-drain 1/4 Gas - Special
<b>L1</b>	Cover motor-drain in vertical axis 1/4 Gas	<b>P1</b>	Std cover for unidirectional motors
<b>L3</b>	Cover motor-drain in vertical axis 1/4 Gas for flange typo 03	<b>P3</b>	Std cover for unidirectional motors for flange typo 03
<b>L6</b>	Cover motor-drain in vertical axis 9/16-18UNF-2B	<b>S1</b>	Cover motor-Electric-piloted distributor+by-pass-drain vert.1/4 G-In-Out 1/2 G - Special
<b>L7</b>	Cover motor-drain at 22° left 7/16-20UNF-2B	<b>T1</b>	Cover motor per braking valve used as anti-cavitation valve internal drain - Special
<b>L8</b>	Cover motor-drain in horizontal axis 9/16-18UNF-2B drain left	<b>v1</b>	Cover motor per RV with drain 1/4 Gas
<b>LC</b>	Cover motor-drain in horizontal axis 1/4 Gas right side	<b>v2</b>	Cover motor per RV with drain vertical axis 1/4 Gas driven side
<b>LD</b>	Cover motor-drain in horizontal axis 1/4 Gas left side	<b>v6</b>	Cover motor per RV with drain 9/16-18UNF-2B
<b>LE</b>	Cover motor-drain in horizontal axis M12x1,25 ISO 6149	<b>v7</b>	Cover motor per RV with drain vertical axis 9/16-18UNF-2B driven side
<b>LF</b>	Cover motor-drain in horizontal axis M12x1,5 right side		
<b>LH</b>	Cover motor-drain in horizontal axis 9/16-18UNF-2B drain right		



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
							B5	B7	NN			/		

## H Inlet size    I Outlet size

NN	Without inlet	
B3	13,5x30xM6 in X	
<del>B5</del>	15x35xM6	
B6	15x40xM6	
<del>B7</del>	20x40xM6	
BB	27x55xM8	
C2	12x26xM5	
C3	13,5x30xM6	
C4	15x35xM6 DXK(+)	
C5	13,5x40xM8	
C6	20x40xM6 DXK(+)	
C7	20x40xM8	
C8	23,5x40xM8	
CS	13,5x30xM6 (2 holes)	
CV	20x40xM8 (2 holes at 30°)	
CX	20x40xM8 (2 holes)	
CY	20x40xM8 (3 holes)	
D4	M16x1,5	
D5	M18x1,5	
D7	M22x1,5	
D9	M26x1,5	
E3	9/16-18UNF	
E4	3/4-16UNF	
E5	7/8-14UNF	
E6	1-1/16-12UN	
E8	1-5/16-12UN	

F3	3/8 GAS	
F4	1/2 GAS	
F5	3/4 GAS	
F6	1 GAS	
H5	M18x1,5-ISO6149	
H7	M22x1,5-ISO6149	
H8	M27x2-ISO6149	
H9	M33x2-ISO6149	
M1	12x17,48x38,1xM6	
M2	12x17,48x38,1xM8	
M3	18,5x17,48x38,1xM8	
M5	25/20x52,37x26,19xM10	
MB	12x38,1x17,48xM8(=)	
MC	18,5x47,63x22,23xM6(=)	
MD	18,5x47,63x22,23xM8(=)	
ME	18,5x47,63x22,23xM10(=)	
MG	25/20x52,37x26,19xM10(=)	
MH	31/25x58,72x30,18xM10(=)	

## J Ports Pos & Spec Body

<del>NN</del>	Std from catalogue
YY	Port Bx-Bx with flange SAE-A; off-set to rear cover
EU	Dist. from front flange=58,5 - Special
F9	Dist. from front flange=69 - Special
PL	Inlet port Left position looking gear drive from front flange

PR	Inlet port Right position looking gear drive from front flange
TD	Nr.4 milling D.27 tigh.16 flange side - Special
TE	Nr.4 milling D.27 tigh.20 flange side - Special
ZZ	Port Bx-Bx in the center of the body - Option



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
										N	A /	NNN	N	N

## K Seals

<del>X</del> N	Standard NBR seals
B	VITON seals (only for unidirectional motors)
D	VITON shaft seal with dust lip (type BABSL)
F	VITON seals except for shaft seal - Special
X	NBR seals+Dust Cover
Y	VITON seals + Dust Cover
Z	VITON shaft seal + Dust Cover

## L Screws

N	Std burnished screws
<del>X</del> A	Zinc plated screws
C	Galvanized nuts - Special

## M Set valves

<del>X</del> NNN	No valve
V**	not defined-pressure no setting :oil ISO VG68-45°

## N Type of mark

<del>X</del> N	Standard Turolla Marking
A	Standard Turolla Marking+Customer Code-Special
Z	Without Marking

## O Mark position

<del>X</del> N	Std Marking position (on top)
A	Special Marking position on the bottom