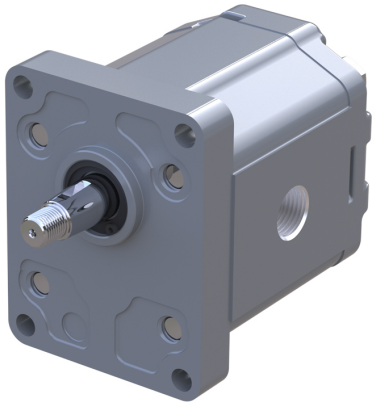
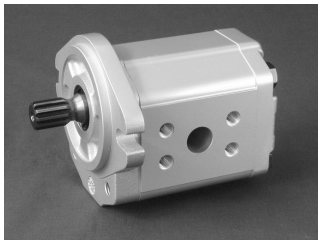
Gear Pumps
Group 2

General information

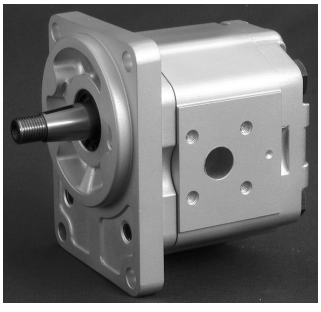


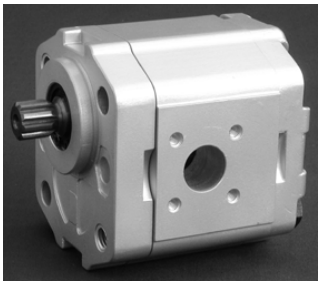
Danfoss aluminum gear pumps are ideal for a wide range of applications for:
• Small vehicles, such as aerial lifts, greens and fairway mowers and electric forklifts. These needs are served by the pumps in the SKP2NN range with integral valves and pressure balanced design for high efficiency, and extruded aluminum bodies for high strength.
• Medium and large off-highway vehicles, like tractors, backhoe loaders, dumpers, and telescopic handlers, we offer the SNP2NN. Many combinations of the pumps mentioned are available as multiple units made to fit any need Danfoss provides standard pumps for use in industrial applications, including power packs.
Danfoss high performance gear pumps are fixed displacement pumps which consist of the pump housing, drive gear, driven gear, DU bushings, rear cover and front flange, shaft seal and inner/ outer seals, as shown in the following image. The pressure balanced design of the pumps provides high efficiency for the entire series. The SNP2NN pump accommodates SAE 9-tooth and the SKP2NN is a special version of the SNP2NN. It is designed to accommodate an SAE 11T 16/32 DP tooth splined shaft for higher torque applications.



Features and benefits

- Wide range of displacements from 3.9 to 25.2 cm3 /rev [from 0.24 to 1.54 in3 /rev]
- Continuous pressure rating up to 250 bar [3625 psi] • Speeds up to 4000 min-1 (rpm)
- SAE, DIN and European standard mounting flanges and shafts • Compact, lightweight
- Multiple pump configurations in combination with SNP1NN, SNP2NN and SNP3NN
- Quiet operation • Available with integral relief valv

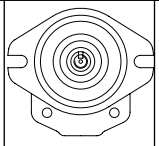
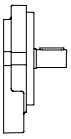
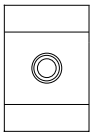
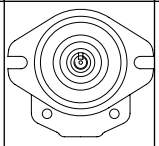
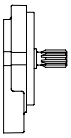
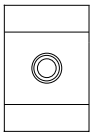
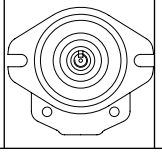
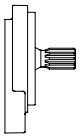
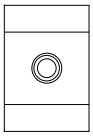




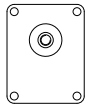
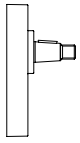
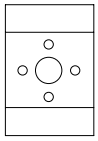
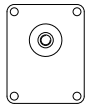
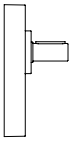
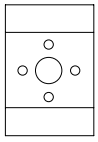
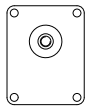
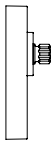
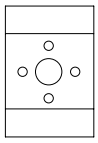
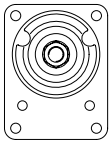
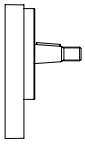
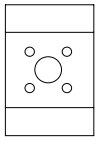
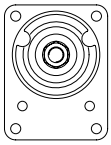
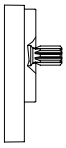
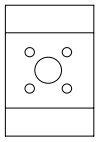
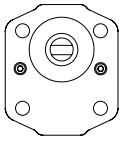
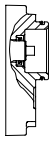
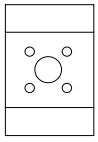
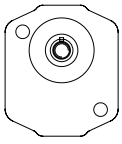
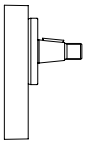
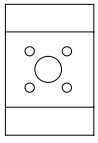
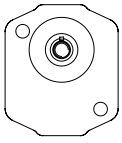
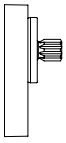
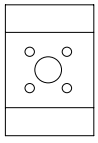
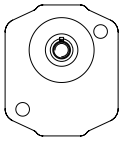
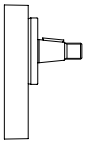
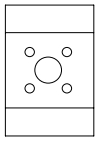
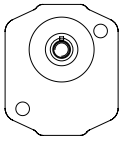
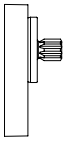
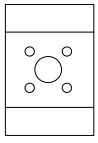
Technical Data

Frame size		4,0	6,0	8,0	011	014	017	019	022	025
Displacement	cm^3/rev [in^3/rev]	3.9 [0.24]	6.0 [0.37]	8.4 [0.51]	10.8 [0.66]	14.4 [0.88]	16.8 [1.02]	19.2 [1.17]	22.8 [1.39]	25.2 [1.54]
SNP2NN										
Peak pressure	bar [psi]	280 [4060]	280 [4060]	280 [4060]	280 [4060]	280 [4060]	280 [4060]	230 [3335]	200 [2900]	175 [2638]
Rated pressure		250 [3625]	250 [3625]	250 [3625]	250 [3625]	250 [3625]	250 [3625]	210 [3045]	180 [2610]	160 [2320]
Minimum speed at 0-100 bar	min^{-1} (rpm)	600	600	600	500	500	500	500	500	500
Minimum speed at 100-180 bar		1200	1200	1000	800	750	750	700	700	700
Min. speed at 180 bar to rated pressure		1400	1400	1400	1200	1000	1000	1000	800	–
Maximum speed		4000	4000	4000	4000	3500	3000	3000	3000	3000
SKP2NN										
Peak pressure	bar [psi]	280 [4060]	280 [4060]	280 [4060]	280 [4060]	280 [4060]	280 [4060]	260 [3770]	230 [3335]	200 [2900]
Rated pressure		250 [3625]	250 [3625]	250 [3625]	250 [3625]	250 [3625]	250 [3625]	240 [3480]	210 [3045]	190 [2755]
Minimum speed at 0-100 bar	min^{-1} (rpm)	600	600	600	500	500	500	500	500	500
Minimum speed at 100-180 bar		1200	1200	1000	800	750	750	700	700	700
Min. speed at 180 bar to rated pressure		1400	1400	1400	1200	1000	1000	1000	800	800
Maximum speed		4000	4000	4000	4000	3500	3000	3000	3000	3000

Flange, shaft and ports configurations

Code	Flange		Shaft		Ports	
06GA	pilot Ø 82.55 mm [3.25 in] SAE A, 2-bolt		Ø 15.875 mm [0.625 in] parallel		Threaded SAE O-Ring boss	
06SA	pilot Ø 82.55 mm [3.25 in] SAE A, 2-bolt		9-teeth splined SAE spline J 498-9T-16/32D P		Threaded SAE O-Ring boss	
06SB	pilot Ø 82.55 mm [3.25 in] SAE A, 2-bolt		11-teeth splined SAE spline J		Threaded SAE O-Ring boss	

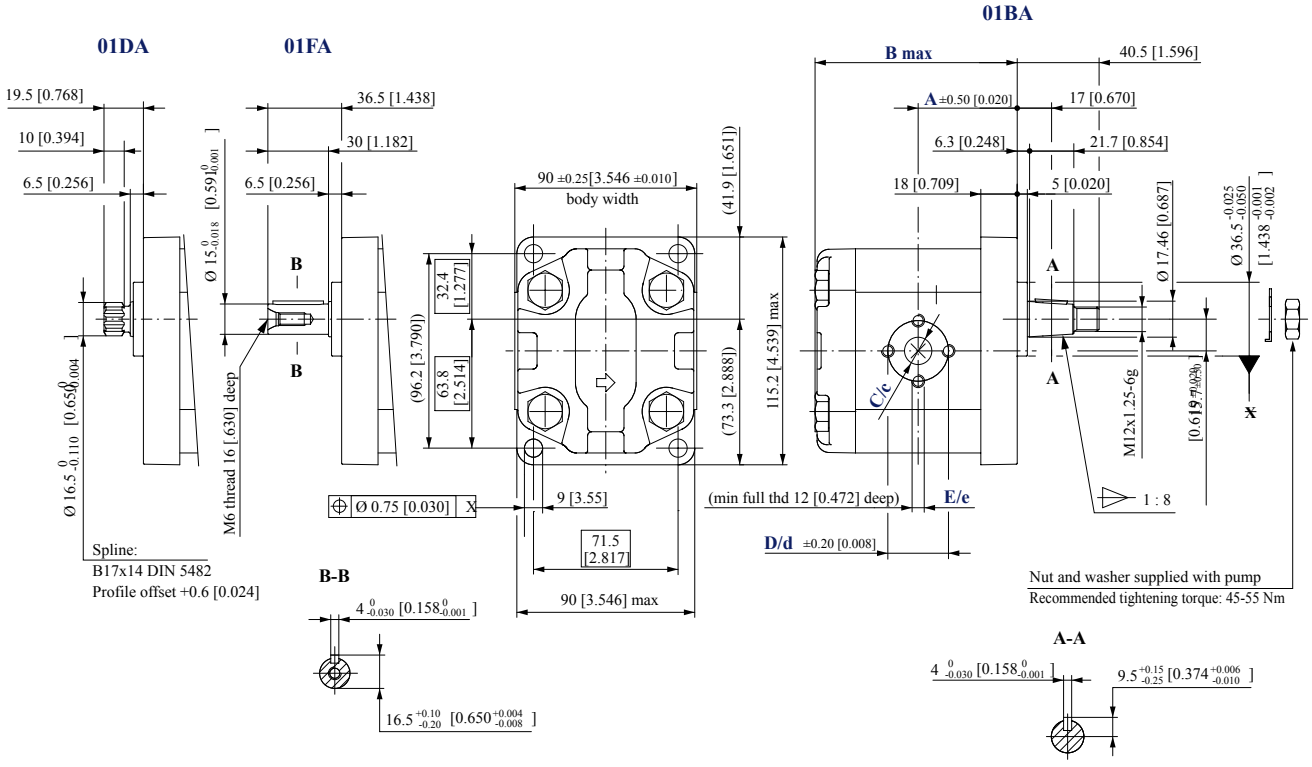
Flange, shaft and ports configurations

Code	Flange		Shaft		Ports	
01BA	pilot Ø 36.5 mm [1.438 in]European 01, 4-bolt		1:8 tapered		European flanged, + pattern	
01FA	pilot Ø 36.5 mm [1.438 in]European 01, 4-bolt		Ø 15 mm [0.59 in] parallel		European flanged, + pattern	
01DA	pilot Ø 36.5 mm [1.438 in]European 01, 4-bolt		Splined 9T - m 1.60 DIN 5482-B17x14		European flanged, + pattern	
02AA	pilot Ø 80 mm [3.15 in] German PTO, 4-bolt		1:5 tapered		German std, × pattern	
02DB	pilot Ø 80 mm [3.15 in] German PTO, 4-bolt		Splined 9T - m 1.60 DIN 5482-B17x14		German std, × pattern	
03CA	Danfoss 03		Danfoss tang		German std, × pattern	
04AA	pilot Ø 50 mm [1.969 in] German PTO, 2-bolt		1:5 tapered		German std, × pattern	
04DB	pilot Ø 50 mm [1.969 in] German PTO, 2-bolt		Splined 9T - m 1.60 DIN 5482-B17x14		German std, × patter	
05AA	pilot Ø 50 mm [1.969 in] German PTO, 2-bolt		1:5 tapered		German std, × pattern	
05DB	pilot Ø 50 mm [1.969 in] German PTO, 2-bolt		Splined 9T - m 1.60 DIN 5482-B17x14		German std, × pattern	

Dimensions

SNP2NN - 01DA, 01FA and 01BA

Standard porting for 01DA, 01FA and 01BA



SNP2NN – 01BA, 01FA and 01DA dimensions

Frame size		4,0	6,0	8,0	011	014	017	019	022	025
Dimension	A	43.25 [1.703]	45 [1.772]	45 [1.772]	49 [1.929]	52 [2.047]	52 [2.047]	56 [2.205]	59 [2.323]	59 [2.323]
	B	90.0 [3.543]	93.0 [3.681]	97.5 [3.839]	101.5 [3.996]	107.5 [4.232]	111.5 [4.390]	115.5 [4.574]	121.5 [4.783]	125.5 [4.941]
Inlet	C	13.5 [0.531]	13.5 [0.531]	13.5 [0.531]	13.5 [0.531]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	23.5 [0.925]
	D	30 [1.181]	30 [1.181]	30 [1.181]	30 [1.181]	40 [1.575]	40 [1.575]	40 [1.575]	40 [1.575]	40 [1.575]
	E	M6				M8				
Outlet	c	13.5 [0.531]								20 [0.787]
	d	30 [1.181]								40 [1.575]
	e	M6								M8

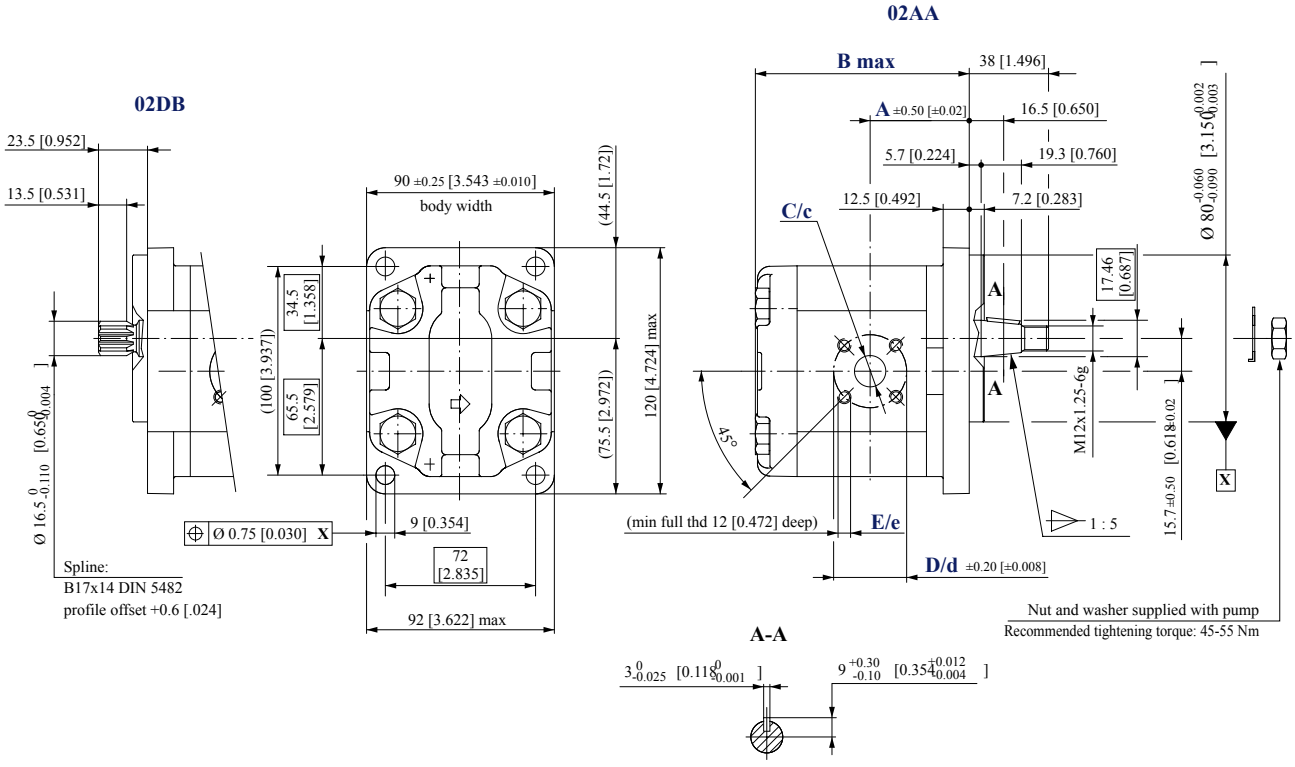
Model code examples and maximum shaft torque

Flange/drive gear	Model code example	Maximum shaft torque
01DA	SNP2NN/014LN01DAP1C7C3NNNN/NNNNN	90 N•m [797 lbf•in]
01FA	SNP2NN/019LN01FAP1C7C3NNNN/NNNNN	90 N•m [797 lbf•in]
01BA	SNP2NN/8,0LN01BAP1C3C3NNNN/NNNNN	150 N•m [1328 lbf•in]

Dimensions

SNP2NN - 02DB and 02AA

Standard porting for 02DB and 02AA



SNP2NN – 02DB and 02AA dimensions

Frame size		4,0	6,0	8,0	011	014	017	019	022	025
Dimension	A	39.8 [1.567]	41.1 [1.618]	43.1 [1.697]	47.5 [1.870]	47.5 [1.870]	47.5 [1.870]	47.5 [1.870]	55 [2.165]	64.5 [2.539]
	B	92.5 [3.642]	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	C	15 [0.591]	15 [0.591]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]
	D	40 [1.575]								
	E	M6								
Outlet	c	15 [0.591]								
	d	35 [1.378]								
	e	M6								

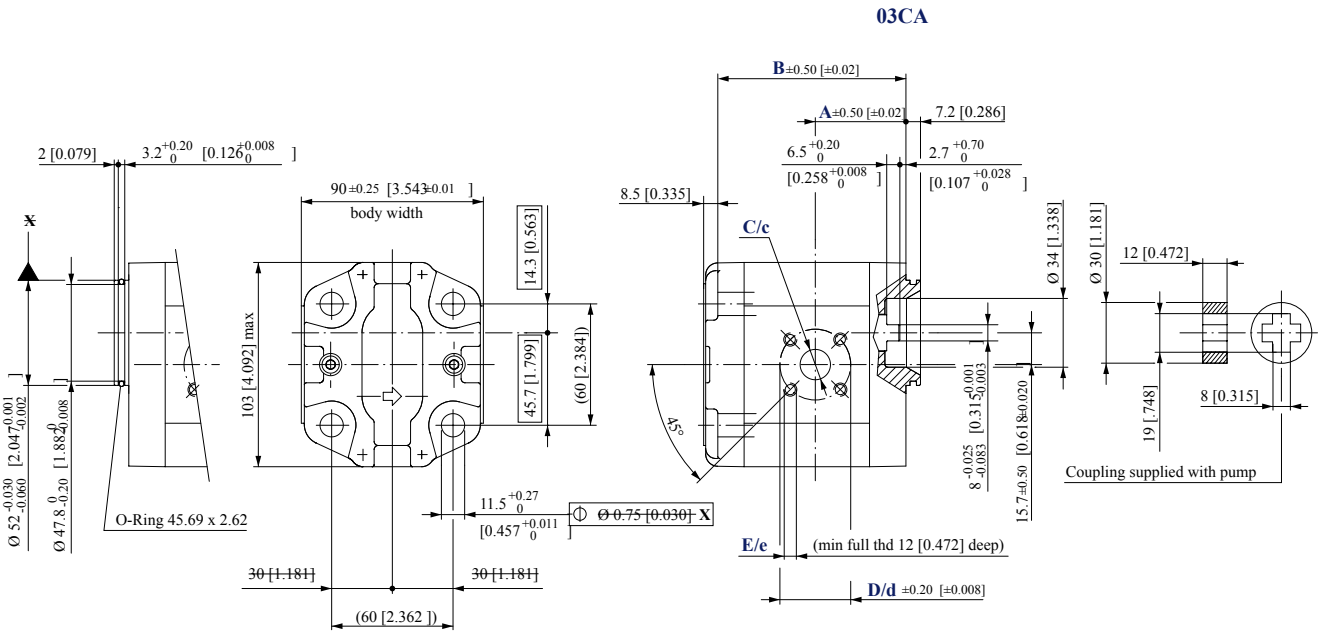
Model code examples and maximum shaft torque

Flange/drive gear	Model code example	Maximum shaft torque
02DB	SNP2NN/017LN02DBP1B7B5NNNN/NNNNN	130 N•m [1151 lbf•in]
02AA	SNP2NN/6,0RN02AAP1B6B5NNNN/NNNNN	140 N•m [1239 lbf•in]

Dimensions

SNP2NN - 03CA

Standard porting for 03CA



SNP2NN – 03CA dimensions

Frame size		4,0	6,0	8,0	011	014	017	019	022	025
Dimension	A	37.3 [1.469]	38.6 [1.520]	40.6 [1.598]	45 [1.772]	45 [1.772]	45 [1.772]	45 [1.772]	52.5 [2.067]	62 [2.441]
	B	81.5 [3.209]	85 [3.346]	89 [3.504]	93 [3.661]	99 [3.897]	103 [4.055]	107 [4.212]	113 [4.448]	117 [4.606]
Inlet	C	15 [0.591]	15 [0.591]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]
	D	40 [1.575]								
	E	M6								
Outlet	c	15 [0.591]								
	d	35 [1.378]								
	e	M6								

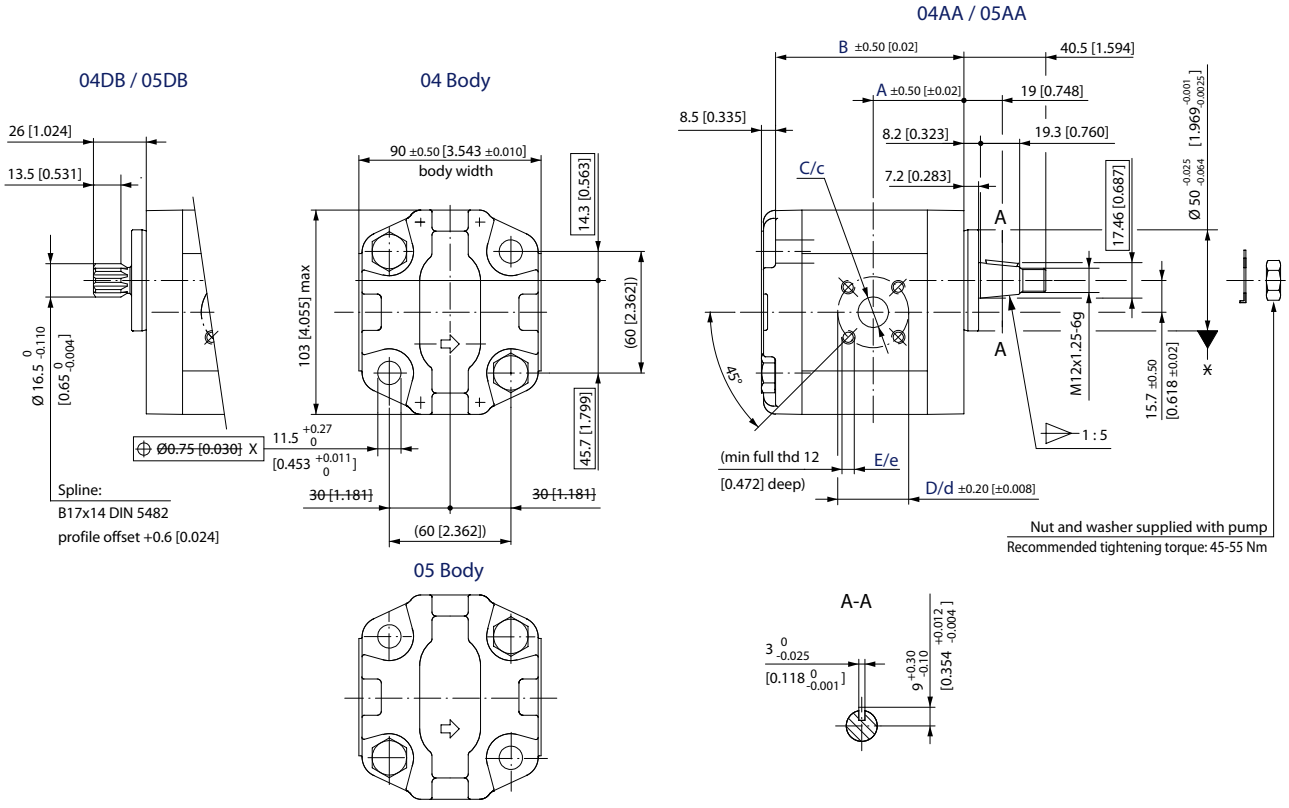
Model code examples and maximum shaft torque

Flange/drive gear	Model code example	Maximum shaft torque
03CA	SNP2NN/014RN03CAP3B7B5NNNN/NNNNN	70 N•m [620 lbf•in]

Dimensions

SNP2NN - 04/05DB and 04/05AA

Standard porting for 04/05DB and 04/05AA



SNP2NN – 04/05DB and 04/05AA dimensions

Frame size		4,0	6,0	8,0	011	014	017	019	022	025
Dimension	**A**	37.3 [1.469]	38.6 [1.520]	40.6 [1.598]	45 [1.772]	45 [1.772]	45 [1.772]	45 [1.772]	52.5 [2.067]	62 [2.441]
	B	81.5 [3.208]	85 [3.364]	89 [3.503]	93 [3.661]	99 [3.897]	103 [4.055]	107 [4.212]	113 [4.448]	117 [4.606]
Inlet	**C**	15 [0.591]	15 [0.591]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]
	D	40 [1.575]								
	E	M6								
Outlet	**c**	15 [0.591]								
	d	35 [1.378]								
	e	M6								

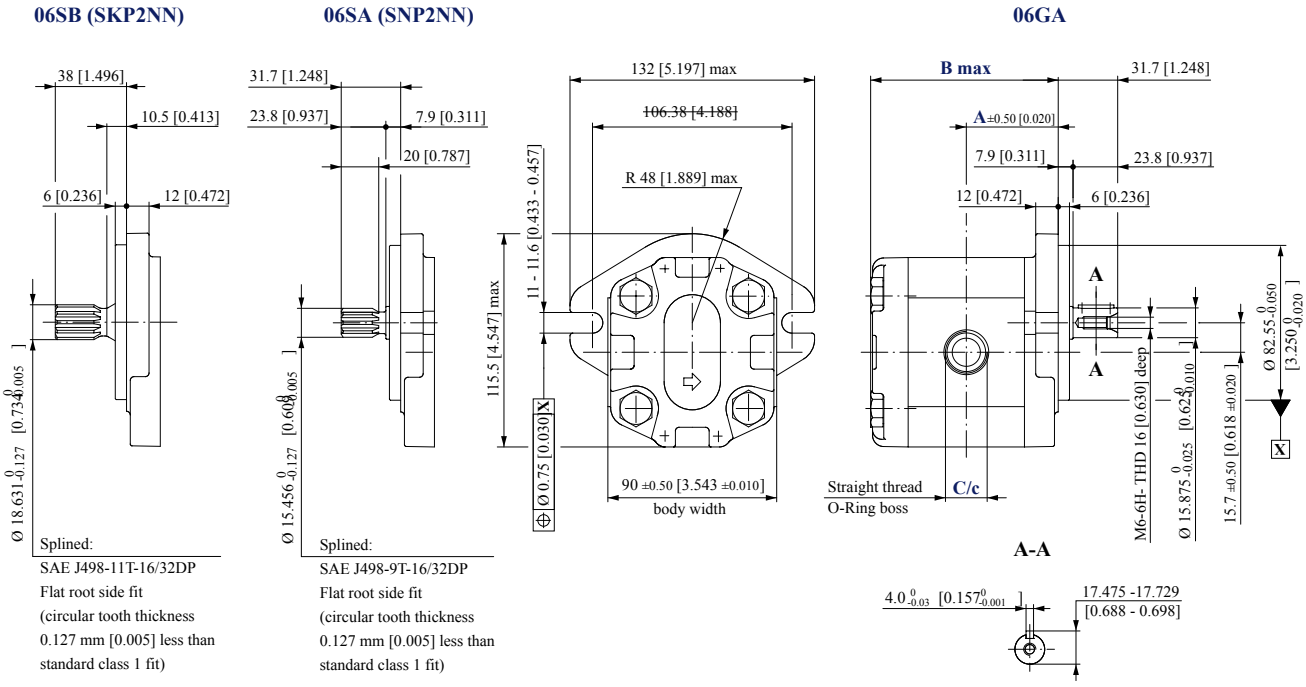
Model code examples and maximum shaft torque

Flange/drive gear	Model code example	Maximum shaft torque
04DB	SNP2NN/8,0LN04DBP1B7B5NNNN/NNNNN	130 N•m [1151 lbf•in]
05DB	SNP2NN/022RN05DBP1B7B5NNNN/NNNNN	
04AA	SNP2NN/6,0LN04AAP1B6B5NNNN/NNNNN	140 N•m [1239 lbf•in]
05AA	SNP2NN/014RN05AAP1B7B5NNNN/NNNNN	

Dimensions

SKP2NN - 06SB and SNP2NN - 06SA, 06GA

Standard porting for 06SB (SKP2NN), and 06SA, 06GA (SNP2NN)



Frame size		4,0	6,0	8,0	011	014	017	019	022	025
Dimension	A	43.25 [1.703]	45 [1.772]	47 [1.850]	49 [1.920]	52 [2.047]	54 [2.205]	56 [2.205]	59 [2.323]	61 [2.402]
	B	90 [3.543]	93.5 [3.681]	97.5 [3.839]	101.5 [3.996]	107.5 [4.232]	111.5 [4.390]	115.5 [4.547]	121.5 [4.783]	125.5 [4.941]
Inlet	C	11/16–12UNF–2B, 18.0 [0.709] deep								
Outlet	c	7/8–14UNF–2B, 16.7 [0.658] deep								

Model code examples and maximum shaft

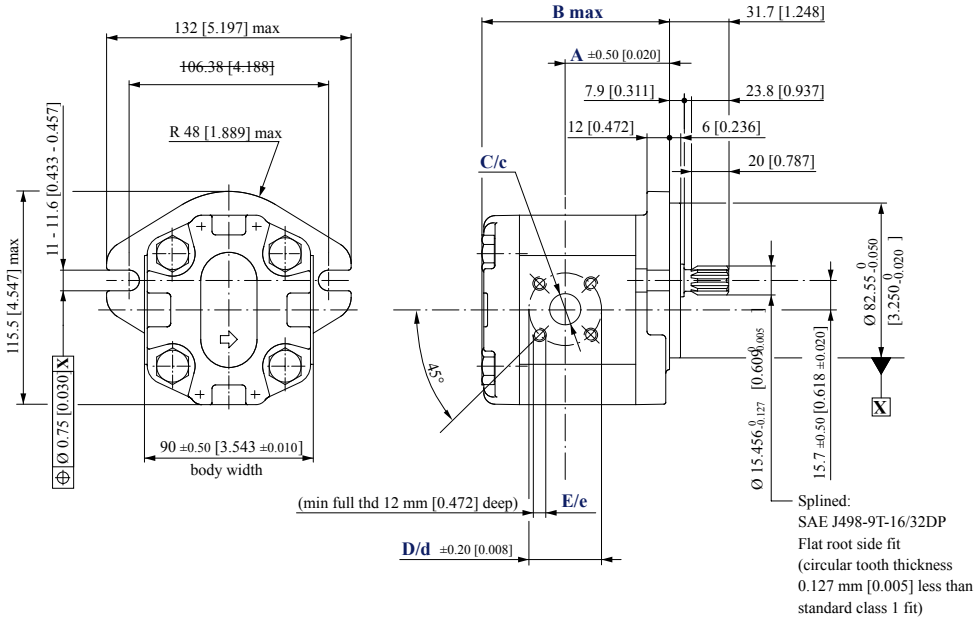
Flange/drive gear	Model code example	Maximum shaft torque
06GA	SNP2NN/6,0RN06GAP1E6E5NNNN/NNNNN	80 N•m [708 lbf•in]
06SA (SNP2NN)	SNP2NN/011LN06SAP1E6E5NNNN/NNNNN	75 N•m [664 lbf•in]
06SB (SKP2NN)	SKP2NN/022RN06SBP1E6E5NNNN/NNNNN	150 N•m [1328 lbf•in]

Dimensions

SNP2NN - 06SA..BxBxBxYY../....

Standard porting for 06SA with port type Bx offset from center of the body

06SA..BxBxYY../.....

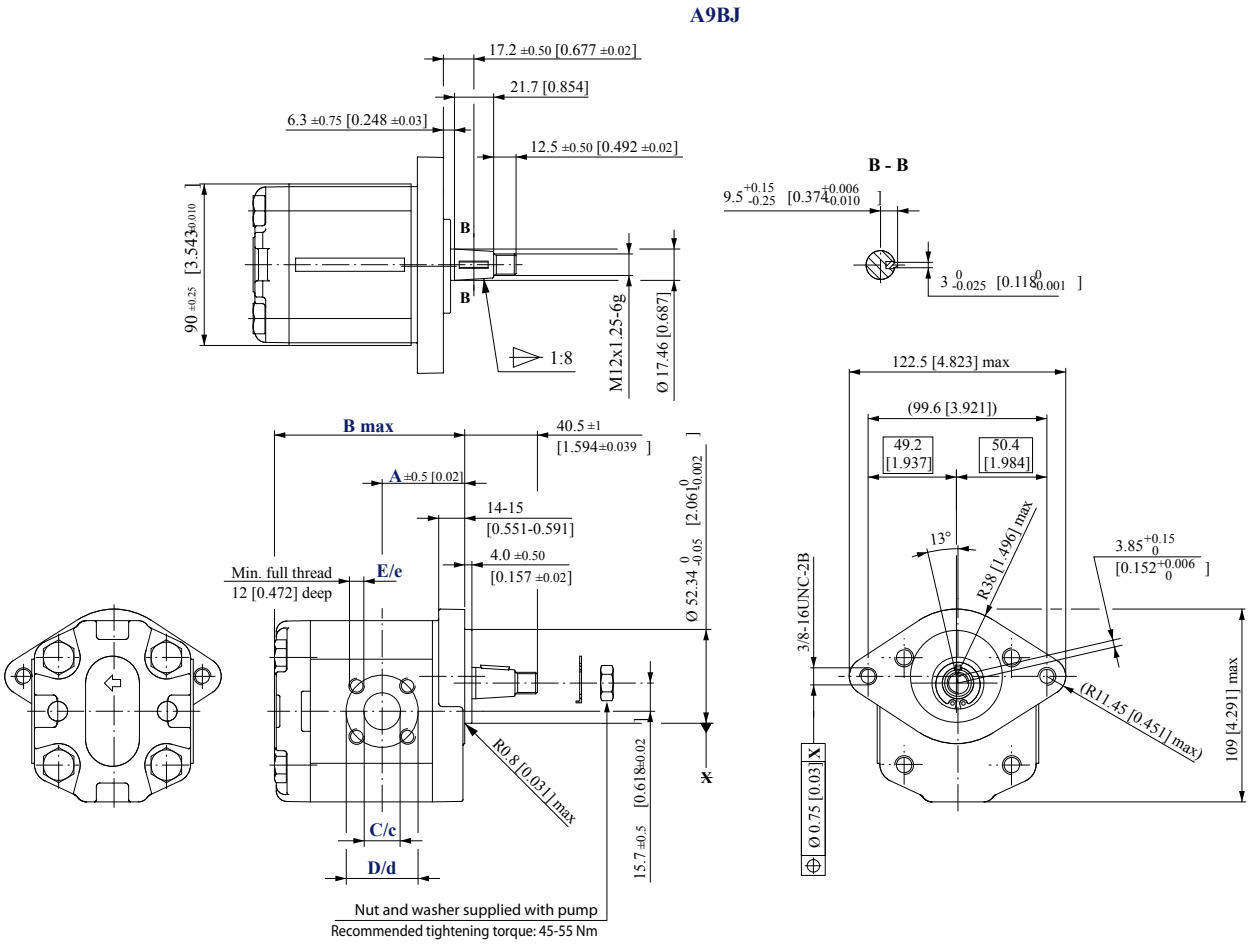


SNP2NN – 06SA..BxBxYY../ .... dimensions

Frame size		4,0	6,0	8,0	011	014	017	019	022	025
Dimension	A	49.2 [1.937]	51.4 [2.023]	53.4 [2.102]	53.0 [2.087]	59.0 [2.322]	63.0 [2.480]	67.0 [2.637]	65.5 [2.579]	60.0 [2.326]
	B	90 [3.543]	93.5 [3.681]	97.5 [3.839]	101.5 [3.996]	107.5 [4.232]	111.5 [4.390]	115.5 [4.547]	121.5 [4.783]	125.5 [4.941]
Inlet	C	15 [0.591]	15 [0.591]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]
	D	40 [1.575]								
	E	M6								
Outlet	c	15 [0.591]								
	d	35 [1.378]								
	e	M6								

Dimensions

SNP2NN - A9BJ



Frame size		4,0	6,0	8,0	011	014	017	019	022	025
Dimension	A	37.3 [1.469]	38.6 [1.520]	40.6 [1.598]	45.0 [1.772]	45.0 [1.772]	45.0 [1.772]	45.0 [1.772]	52.5 [2.067]	62 [2.441]
	B	90 [3.543]	93.5 [3.681]	97.5[3.839]	101.5 [3.996]	107.5 [4.232]	111.5 [4.390]	115.5 [4.547]	121.5 [4.783]	125.5 [4.941]
Inlet	C	15 [0.591]	15 [0.591]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]	20 [0.787]
	D	40 [1.575]								
	E	M6								
Outlet	c	15 [0.591]								
	d	35 [1.378]								
	e	M6								

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