



Scaravella Flli

PRECISION GROUND BALL SCREWS



Catalogue
Quick Guide



Rel. 24.00 - 10th may 2024



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VITI A SFERE DI PRECISIONE



PRECISION GROUND BALL SCREWS

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Azienda certificata



ISO 9001:2015

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STANDARD BALLS CREWS TABLES

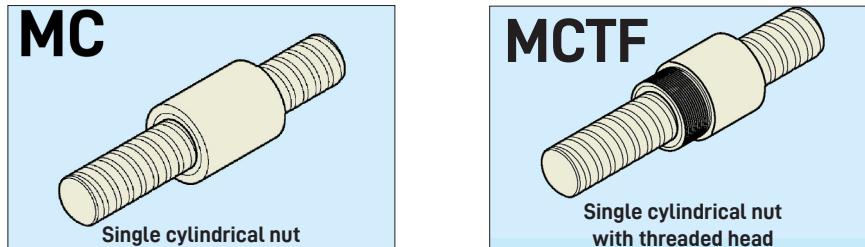
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FOREWORD

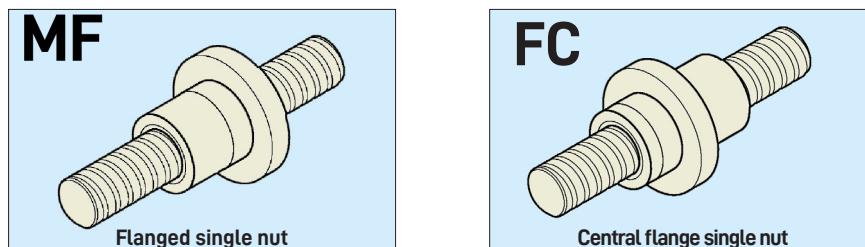
- Quick reference guide for catalogue consultation -

The following pages contain the tables for a rapid individuation of ballscrew nuts into the Catalogue. The ballscrew nuts are organized by Type of nut (single, preloaded or double), by type of flange (DIN or STD - standard), by nominal diameter (Dn) and by pitch of tread.

Single cylindrical nut (MC), Single cylindrical nut with threaded head (MCTF),

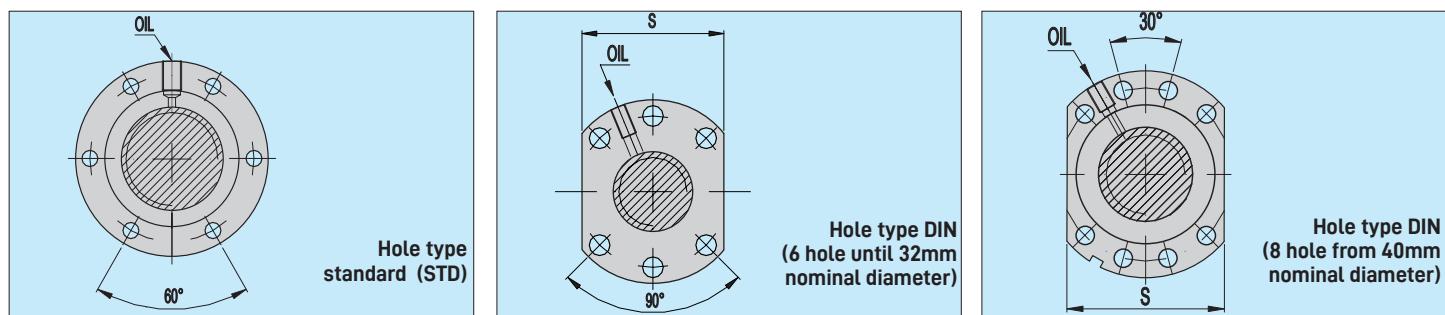


Flanged single nut (MF) and Central flange single nut (FC)

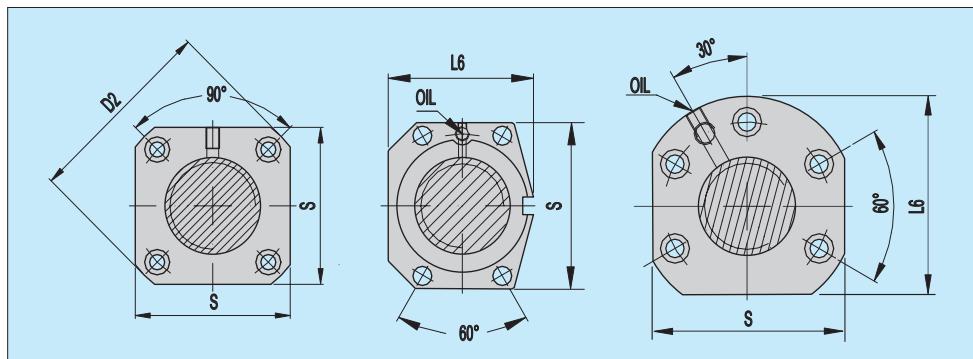


The ballscrew nut MC, MF and FC are realized by a single body with internal helicoidal thread for balls circulation and holes for the deflectors for balls recirculation. The ballscrew nuts are provided WITHOUT PRELOAD (medium axial backlash 0,01 ÷ 0,02mm); on demand can be provided at "0" backlash (zero).

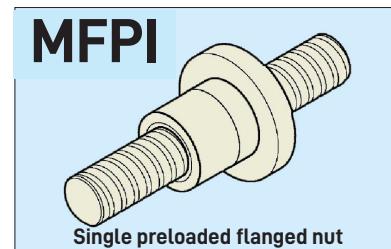
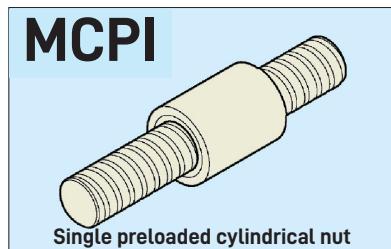
The flanged nuts MF and FC may have holed type DIN o STD (standard):



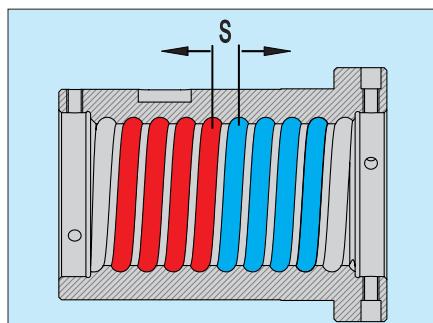
On demand may be realized flange with particular form and holed.



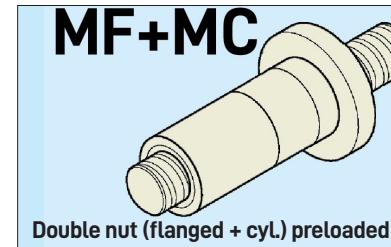
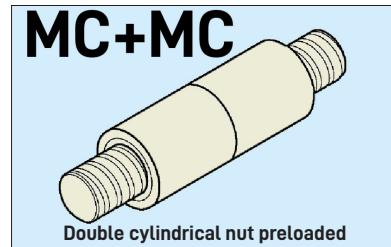
Single preloaded cylindrical nut (MCPI) and Single preloaded flanged nut (MFPI)



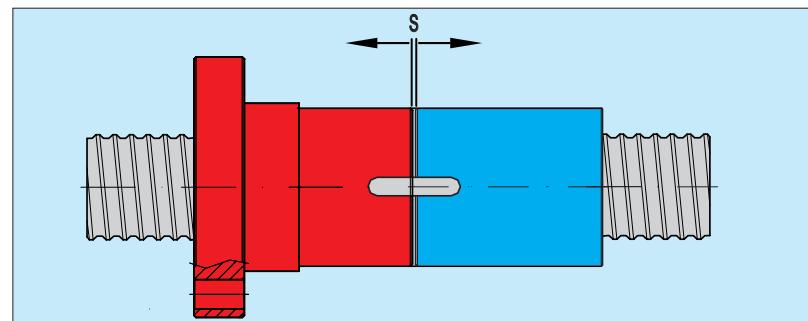
The ballscrew nut MCPI and MFPI are realized by a single body with internal helicoidal thread for balls circulation and holes for the deflectors for balls recirculation. For increase the rigidity of coupling screw/nut the nut helicoidal thread is realized with a "distance - S" between the two deflector series. The entity of distance define the required preload.



Double cylindrical nut preloaded (MC+MC) and Double nut (flanged + cylindrical) preloaded (MF+MC)



The ballscrew nut MCPI and MCPI are realized by two nut coupling through a spacer.
The entity of the spacer width "S", define the required preload.





Fast search Table

DIAMETER PITCH	N° of CIRCUITS of BALLS	MC	MC+MC	MCPI	MF	MF+MC	MFPI	FC	MCTF	FLANGE HOLED TYPE
		Single cylindrical nut	Double cylindrical nut preloaded	Single preloaded cylindrical nut	Flanged single nut	Double nut (flanged + cylindrical) preloaded	Single preloaded flanged nut	Central flange single nut	Single cylindrical nut with threaded head	
16 pitch 5	3	Page 11							Page 9	
					Page 17					STD
					Page 18					DIN
	4	Page 11				Page 17				STD
						Page 18				DIN
16 pitch 10	3				Page 18					DIN
20 pitch 5	3	Page 11			Page 20					
					Pages 18 - 19					STD
					Page 21					DIN
	4	Page 11							Page 9	
					Page 18					STD
					Page 21					DIN
	3+3		Page 15	Page 14						
						Page 50	Page 35			STD
							Page 34			DIN
20 pitch 10	3	Page 11								
					Page 19					STD
					Page 19					DIN
	4				Page 21				Page 9	
										DIN



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DIAMETER PITCH	N° of CIRCUITS of BALLS	MC	MC+MC	MCPI	MF	MF+MC	MFPI	FC	MCTF	FLANGE HOLED TYPE
		Single cylindrical nut	Double cylindrical nut preloaded	Single preloaded cylindrical nut	Flanged single nut	Double nut (flan- ged + cylindrical) preloaded	Single preloaded flanged nut	Central flange single nut	Single cylindrical nut with threaded head	
25 pitch 5	3	Page 11								
					Pages 18 - 19					STD
					Page 22					DIN
	4	Page 11				Pages 18, 19 and 20				STD
					Page 22					DIN
		5							Page 9	
	3+3		Page 15				Pages 36 - 38			STD
							Page 37			DIN
			Page 15					Page 36		STD
	4+4							Page 37		DIN
25 pitch 6	3+3						Page 38			DIN
25 pitch 10	3	Page 11								
					Page 19					STD
					Page 21					DIN
	4	Page 11				Page 19				DIN
					Page 19					STD
	3+3					Page 51				STD
						Page 51				DIN
	4+4					Page 51				DIN
						Page 51				STD
25 pitch 15	3				Page 19					STD
25 pitch 20	2	Page 11								
					Page 19					STD
					Page 19					DIN
	2+2					Page 51				STD



DIAMETER PITCH	N° of CIRCUITS of BALLS	MC	MC+MC	MCPI	MF	MF+MC	MFPI	FC	MCTF	FLANGE HOLED TYPE
		Single cylindrical nut	Double cylindrical nut preloaded	Single preloaded cylindrical nut	Flanged single nut	Double nut (flanged + cylindrical) preloaded	Single preloaded flanged nut	Central flange single nut	Single cylindrical nut with threaded head	
32 pitch 5	3	Page 11								
	4	Page 11								DIN
					Page 21					STD
					Pages 22 - 23					
	5								Page 9	
					Page 21					DIN
		Page 11								
	6				Page 22					DIN
					Page 22					STD
						Page 51	Page 40			STD
	3+3		Page 15	Page 14						STD
							Page 41			DIN
						Page 51	Pages 40 - 41			STD
32 pitch 6	4+4		Page 15				Page 42			
							Page 51	Pages 37 - 39		DIN
							Page 52			
	4	Page 11								
		Page 11								
	5									DIN
					Page 23					STD
					Page 24					
	3+3						Page 37			DIN
							Page 42			
	4+4						Page 40			DIN
	5+5						Page 52			
							Page 52			DIN



DIAMETER PITCH	N° of CIRCUITS of BALLS	MC	MC+MC	MCPI	MF	MF+MC	MFPI	FC	MCTF	FLANGE HOLED TYPE
		Single cylindrical nut	Double cylindrical nut preloaded	Single preloaded cylindrical nut	Flanged single nut	Double nut (flanged + cylindrical) preloaded	Single preloaded flanged nut	Central flange single nut	Single cylindrical nut with threaded head	
		Page 12								
	3				Pages 21 - 25					STD
					Page 25					DIN
		Page 12							Page 9	
	4				Pages 21 - 25					DIN
					Pages 21 - 24					STD
32 pitch 10	5	Page 12							Page 9	
					Page 25					DIN
	3+3			Page 16						
						Page 53	Page 40			STD
						Page 53	Page 39			DIN
	4+4		Page 16			Page 52				
						Pages 52 - 53				DIN
						Page 53				STD
	5+5					Page 53				DIN
32 pitch 12	4	Page 12								
					Page 26					DIN
	4+4					Page 53				DIN
32 pitch 20	2	Page 12								
					Page 19					STD
					Page 21					DIN
	3				Page 19					STD
					Page 21					DIN
32 pitch 25	2+2					Page 53				STD
	2	Page 12								
					Page 19					STD
	2+2					Page 53				STD



DIAMETER PITCH	N° of CIRCUITS of BALLS	MC	MC+MC	MCPI	MF	MF+MC	MFPI	FC	MCTF	FLANGE HOLED TYPE
		Single cylindrical nut	Double cylindrical nut preloaded	Single preloaded cylindrical nut	Flanged single nut	Double nut (flanged + cylindrical) preloaded	Single preloaded flanged nut	Central flange single nut	Single cylindrical nut with threaded head	
40 pitch 5	4	Page 12								
					Pages 26 - 27					STD
					Page 27					DIN
	5								Page 9	
					Page 27					DIN
	6	Page 12								
					Page 27					STD
	4+4		Page 15							
						Page 54	Page 42			STD
							Page 43			DIN
	5+5	5+5					Page 46			
										DIN
				Page 15			Page 54			
	6+6							Page 46		
										STD
										DIN
40 pitch 6	4	Page 12								
	6	Page 12								
					Page 27					DIN
	4+4		Page 15				Pages 43 - 44			
							Page 44			
										DIN
	6+6					Page 54				DIN



DIAMETER PITCH	N° of CIRCUITS of BALLS	MC	MC+MC	MCPI	MF	MF+MC	MFPI	FC	MCTF	FLANGE HOLED TYPE
		Single cylindrical nut	Double cylindrical nut preloaded	Single preloaded cylindrical nut	Flanged single nut	Double nut (flan- ged + cylindrical) preloaded	Single preloaded flanged nut	Central flange single nut	Single cylindrical nut with threaded head	
40 pitch 10	3	Page 12								
					Page 28					STD
	4	Page 12							Page 9	
					Page 28					STD
					Page 32					DIN
	3+3		Page 15				Page 44			
						Page 55	Pages 45 - 47			STD
							Page 46			DIN
	4+4		Page 15				Page 44			
						Page 55	Pages 45 - 47			STD
						Page 57	Page 46			DIN
	6+6		Page 15							
40 pitch 12	4+4						Page 43			DIN
40 pitch 20		Page 13			Page 33					
					Pages 29 - 30			Page 31		STD
					Page 32					DIN
	4				Page 33					DIN
	3+3					Page 56				STD
40 pitch 40	2	Page 13			Page 30					
					Pages 29 - 30			Page 31		STD
	2+2					Page 56				STD



DIAMETER PITCH	N° of CIRCUITS of BALLS	MC	MC+MC	MCPI	MF	MF+MC	MFPI	FC	MCTF	FLANGE HOLED TYPE
		Single cylindrical nut	Double cylindrical nut preloaded	Single preloaded cylindrical nut	Flanged single nut	Double nut (flanged + cylindrical) preloaded	Single preloaded flanged nut	Central flange single nut	Single cylindrical nut with threaded head	
	5	Page 12								
	6	Page 12								STD
					Page 27					DIN
					Page 32					
50 pitch 5	4+4		Page 15				Page 48			
						Page 58	Page 42			STD
							Page 46			DIN
	5+5						Page 46			DIN
	6+6		Page 15				Page 54	Page 48		STD
							Page 59	Page 46		DIN
		Page 12								
50 pitch 10	4				Page 28					STD
					Page 32					DIN
		Page 12								
	6				Page 28					STD
	3+3		Page 15				Page 58			DIN
	4+4		Page 15				Page 48			
50 pitch 20	3						Pages 45 - 47			STD
						Page 59	Page 46			DIN
		Page 13								
	4	Page 13								
	3+3				Page 32					DIN
	4+4					Page 59				



DIAMETER PITCH	N° of CIRCUITS of BALLS	MC	MC+MC	MCPI	MF	MF+MC	MFPI	FC	MCTF	FLANGE HOLED TYPE
		Single cylindrical nut	Double cylindrical nut preloaded	Single preloaded cylindrical nut	Flanged single nut	Double nut (flan- ged + cylindrical) preloaded	Single preloaded flanged nut	Central flange single nut	Single cylindrical nut with threaded head	
50 pitch 40	2	Page 13								
									Page 31	STD
					Page 32					DIN
63 pitch 10	6	Page 13								
					Page 28					STD
					Page 32					DIN
	4+4			Page 16						
						Page 60	Page 49			STD
						Page 60	Page 46			DIN
	5+5		Page 16							
						Page 60				STD
						Page 60	Page 46			DIN
63 pitch 20	3	Page 13								
					Page 32					DIN
	4	Page 13								
					Page 32					DIN
	5				Page 32					DIN
	3+3					Page 59				DIN
	4+4					Page 59				DIN



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TECHNICAL DATA

STATIC AND DYNAMIC RIGIDITY

The definition of static rigidity is known, as the ratio between the applied LOAD and the deformation that is determined:

$$K_{\text{stat V}} = \frac{F}{f} \text{ (kg}/\mu\text{m)}$$

The static rigidity of the screw (**K stat V**) is expressed in [kg/ μ m] and corresponds to axial deformation.

For example, for a rigidity of $1,3 \cdot 10^3$ kg/ μ m, with an axial LOAD of 5000 kg, there is a deformation that is equivalent to:

$$(5000 : 1300) = 3,8 \mu\text{m.}$$

The overall rigidity of the ball screw is a function of 3 factors:

- a. the rigidity of the screw (or threaded shaft);
- b. the rigidity of the screw nut;
- c. the rigidity in the contact zone of the balls.

Static rigidity of the screw

$$K_{\text{stat V}} = \frac{F}{f} = \frac{A \cdot E}{l \cdot 10^3} \text{ (kg}/\mu\text{m)}$$

where: **A**, shaft cross-section (mm^2);
E, modulus of elasticity ($21 \cdot 10^3 \text{ kg}/\text{mm}^2$);
I, initial LENGTH of the shaft.

Static rigidity of the screw nut

K stat M, which is normally very high, for the compact shape of the screw nut itself; it is calculated with the previous formula.

Static rigidity of the balls contact zone

K stat M, is theoretically determined, as a function of the ball-groove contact, for loads higher than those of normal operation. These loads correspond to the deformation of the screw and screw nut thread and to the ball-groove contact deformation. Rigidity conditions can be improved by applying a PRELOAD to the screw nut.

Of course, the rigidity characteristics of the screw must be correlated with the rigidity of the machine and with the methods of fixing the screw on the machine itself: in particular the screw supports and their rigidity.

The dynamic characteristics of ball screws are present in the analysis of designers, who must increasingly take into account the "responses" of the machines to the stresses that they receive, and that are not "fully operational".

The dynamic rigidity is a function of the variations of the LOAD, applied to the ball screw, and in particular of the relationship between the frequency of these values and the typical frequency of the considered part.

It is well known that when equality occurs between the two frequencies, the Dynamic rigidity is minimal, and resonance phenomena arise. The parameters on which the dynamic rigidity of ball screws depends are:

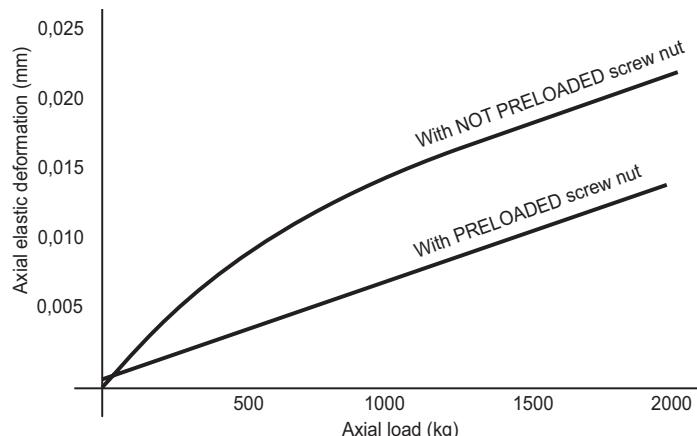
- oscillating weight;
- damping ratio;
- static rigidity;
- own frequency.

$$K_{\text{din}} = \frac{K_{\text{stat}}}{A}$$

In our case **A** takes values approximately between 4 and 5. To improve dynamic rigidity, the excitation frequency values must be moved away from those of the natural frequency, and/or maximum damping must be achieved with appropriate PRELOAD values.

DEFORMATIONS

It is possible to know the value of axial elastic deformation in a screw-screw nut assembly subjected to a certain LOAD. This value is calculated each time, as it is a function of the number and diameter of the balls being worked, the conditions of use and the preload within the screw-screw nut assembly.





CALCULATION OF APPLIED TORQUE

The value of C torque, necessary for the operation of a ball screw to which an axial load F is applied is:

$$C_t = \frac{F \cdot p}{2000 \cdot \pi \cdot \eta} = \text{kgm}$$

where: F , is axial LOAD
 p , is screw PITCH
 η , is the yield of the helical pair (0,9).

To this should be added the inertia torque of the screw shaft and the torque due to the PRELOAD of the screw nut.

CALCULATION OF LOADS AND DURATION

The calculation of the permissible LOAD on the shaft can be set, especially for long and thin screws, stuck at one end and free from the other (heavier case), with the processes of the tip loaded solids (Euler formulas)..

The LOAD to which the ball screw is subjected must be considered applied in dynamic conditions, sometimes with shocks: therefore, the sizing must take this condition into account.

It should also be noted that the sizing of the ball screw must be carried out, taking into account not only the screw, but the resistance of the screw-nut-ball assembly.

As for the duration of a screw, it is noted that it is correlated with its resistance to fatigue, and with the number of times the sphere touches a given point of the groove.

Therefore, the lifetime measurement of a ball screw is expressed in number of rotations (10^6 revolutions, or millions of revolutions). The coefficient L_{din} of dynamic LOAD indicates the permissible LOAD (in kg) for a duration T of 10^6 revolutions. The coefficient L_{stat} of static LOAD corresponds to the maximum permissible load on the screw in resting conditions, or for very slow rotations. Beyond this LOAD there is a permanent deformation on the raceways of 0,0001 compared to the diameter of the ball.

For the choice of the screw it is necessary, however, to know the medium load F_m : that is the load corresponding to the actual use of the screw, which is determined by the conditions of use of the screw itself and can be calculated approximately by the following formula:

$$F_m = \sqrt[3]{\frac{F_1^3 T_1 + F_2^3 T_2 + \dots + F_n^3 T_n}{T}}$$

where:

F_1 is the constant LOAD during T_1 rotations;
 $F_2 \dots F_n$ are the constant loads during $T_2 \dots T_n$ rotations;
 $T = T_1 + T_2 + \dots + T_n$ are the number the total number of rotations during which the loads F_1, F_2, \dots, F_n .

The calculation of the life of the screw:

$$T_v = \left(\frac{C_{\text{din}}}{F_m} \right)^3 \cdot 10^6 \text{ giri} \quad F_m = \frac{C_{\text{din}}}{\sqrt[3]{\frac{T_v}{10^6}}}$$

where:

T_v	Screw life in number of revolutions
L_{din}	dynamic LOAD (see Technical Data Tables, pages 10 ÷ 69)
F_m	medium operating working LOAD

For the calculation of the service life, the average value of the load is considered for F_m , the medium operating working LOAD, which affects the service life raised to the third.

Still the report

$$\frac{C_{\text{din}}}{F_m} = \sqrt[3]{\frac{T_v}{10^6}}$$

it can be called λ and obtained according to the number of rotations required by the screw.

OPERATIONAL LIFE

The **nominal life** of a ball screw is the number of hours of activity at a constant speed (or the number of revolutions) that the screw is able to withstand before the first signs of fatigue (peeling) occur on the rolling surfaces (screw and screw nut)..

Practical experience has shown that identical screws, working under the same conditions, have different durability; hence the concept of nominal life. The nominal life, according to the ISO definition, is the life reached or exceeded by 90% of a sufficiently large number of identical screws working under the same conditions (alignment, applied load, speed, acceleration, temperature, lubrication and cleaning).

The **service life** is the lifespan of a specific screw before failure. The failure is not normally caused by fatigue (peeling), but by the wear of the recirculation system, corrosion, contamination and, more generally, by the loss of functional characteristics.

To obtain a useful life equivalent to the nominal life, the screw must be subjected to an real medium load not exceeding 80% of the dynamic load along a stroke of not less than 4 times the pitch. The determination of the "size" of the screw to obtain the required durability is provided by the experience gained with similar applications; it is also necessary to consider the specific structural needs such as the robustness of the terminals (shanks) and the attachments of the screw nut due to the efforts applied to these elements.

Mounting

In order to ensure the expected life of the screw it is important to ensure a correct alignment of the screw with the sliding guides. Radial loads and eccentric thrusts are absolutely to be avoided because they reduce in significantly the service life of the screw.

Lubrication

The lubrication of ball screws must be appropriate in quantity and quality, even more so for those screws that work at high speed. The quantity, distribution and frequency of lubrication must be determined appropriately and constantly monitored. At high speeds the lubricant on the screw surface can be expelled by centrifugal force.

It is important to keep this phenomenon under control during the first strokes at high speeds and then adapt the lubrication frequency, flow and quality of the lubricant.

If necessary, use a higher viscosity lubricant. The optimization of the lubrication frequency and the amount of lubricant must be determined taking into account the temperature reached by the screw nut and its trend. Good lubrication is essential to ensure the proper functioning and durability of the screw.

The screws can be lubricated with oil or grease.

In general, the amount of oil needed to ensure proper lubrication is between 3 e 5 cm³/h, for each turn of the balls.

Grease lubrication is recommended ONLY for low rotational speeds. The recommended amount of fat is about half the free volume inside the screw nut.

Proper lubrication allows you to obtain:

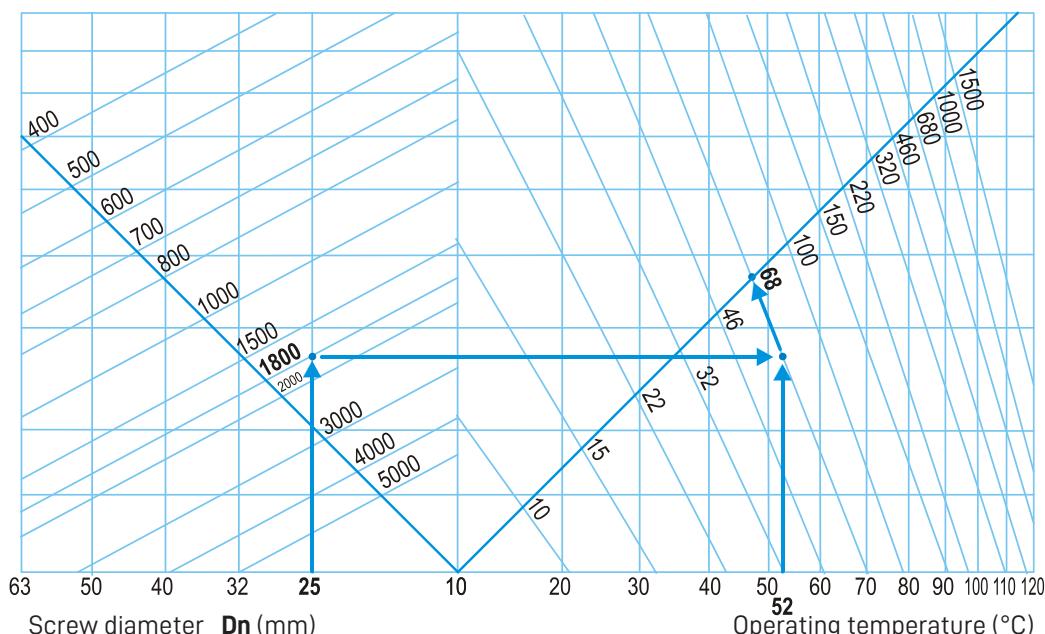
- a) a long operational life in accordance with the calculation values
- b) a suitable heat dissipation
- c) the reduction of wear and corrosion

Oil lubrication

Diagram for determining the kinematic viscosity of lubricating oil

Average speed n_m (rpm)

Viscosity ISO VG oil (mm²/sec. a 40°)



- The most suitable lubrication system is at oil centralized lubrication system.
- Lubricant quantity: 3÷6 cm³/h for each ball circuit.
- - For operating temperatures between 10°C and 70°C the viscosity should be placed between ISO VG68 and ISO VG220.

Grease lubrication

- It is used for low-speed operating conditions.
- Use grease according to Class 2 DIN 51825 every three months max.
- In the presence of high loads, use grease in accordance with DIN 51818
- Introduce grease in quantity corresponding to at least half of the free volume inside the screw nut.
- Carry out complete grease replacement every 12 months.
- Significantly reduce lubrication intervals in particularly adverse working conditions: sudden changes in temperature, humidity, dusty or saline environments, etc.

Table of viscosity classes

ISO viscosity class	Average viscosity at 40°C mm²/s	Viscosity limits at 40°C mm²/s	
		Min	Max
ISO VG 2	2,2	1,98	2,42
ISO VG 3	3,2	2,88	3,52
ISO VG 5	4,6	4,14	6,06
ISO VG 7	6,8	6,12	7,48
ISO VG 10	10	9	11
ISO VG 15	15	13,5	16,5
ISO VG 22	22	19,8	24,2
ISO VG 23	32	28,8	35,2

(*) Recommended viscosity class

ISO viscosity class	Average viscosity at 40°C mm²/s	Viscosity limits at 40°C mm²/s	
		Min	Max
ISO VG 68(*)	68	61,2	74,8
ISO VG 100	100	90	110
ISO VG 150	150	135	165
ISO VG 220	220	198	242
ISO VG 320	320	288	352
ISO VG 460	460	414	506
ISO VG 680	680	612	748
ISO VG 1000	1000	900	1100

PRELOAD

Ppreload is used when maximum rigidity and absence of backlash is required. The Ppreload reduces elastic deformation in the screw/screw nut coupling, increases accuracy and improves responsiveness to command impulses.

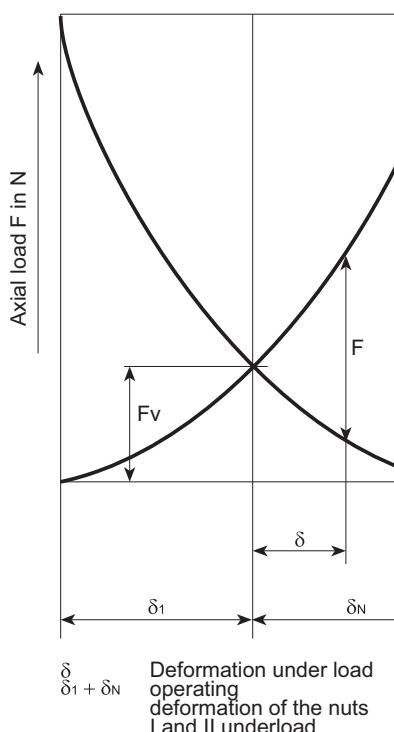
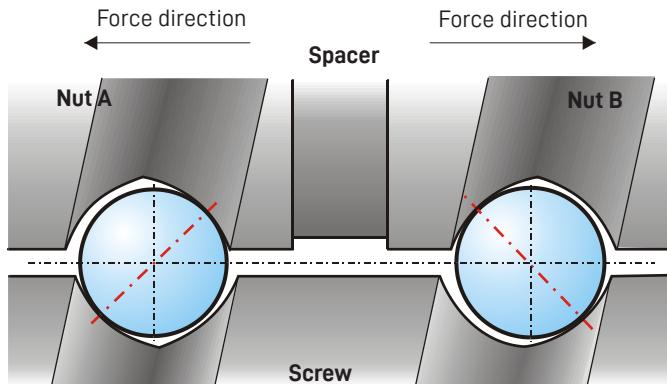
Lower preload values reduce rigidity, higher values increase friction; In both cases, the accuracy of the positioning or the durability of the screw is respectively affected.

Ball screws with single nuts without preload denote axial clearance and have a modest rigidity, as soon as loaded, following an unfavorable contact.

Therefore the relative movement screw - nut can reach high values. If a ball screw without backlash is required, with a high positioning precision and therefore a high rigidity, preloaded screw nut systems must be used.

Higher values mean higher torques, lower yield and durability. Too high an increase in the preload of the screw nut produces a limiting increase in rigidity, but a considerable increase in preload torque and therefore in operating temperature. The preload normally applied at the factory turns out to be about 6% of the dynamic load and is considered optimal and does not need to be increased.

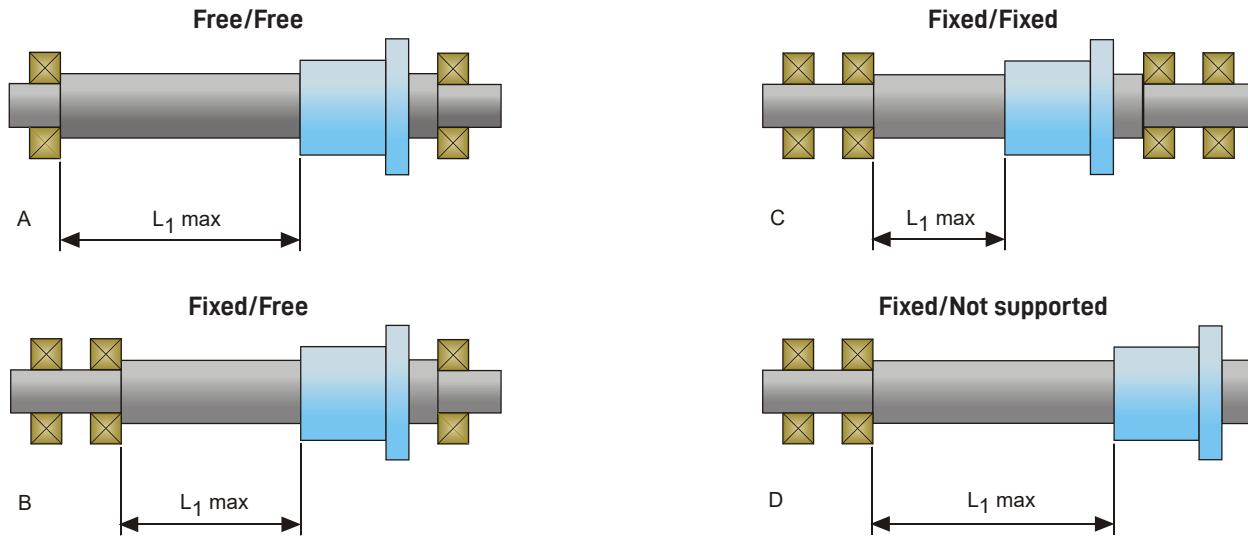
The Ppreload is obtained by inserting a spacer of appropriate size between the two screw nut and acting with a tensile force on them.



The value of the Ppreload is determined by acting on the thickness of the spacer.

SUPPORT SYSTEMS

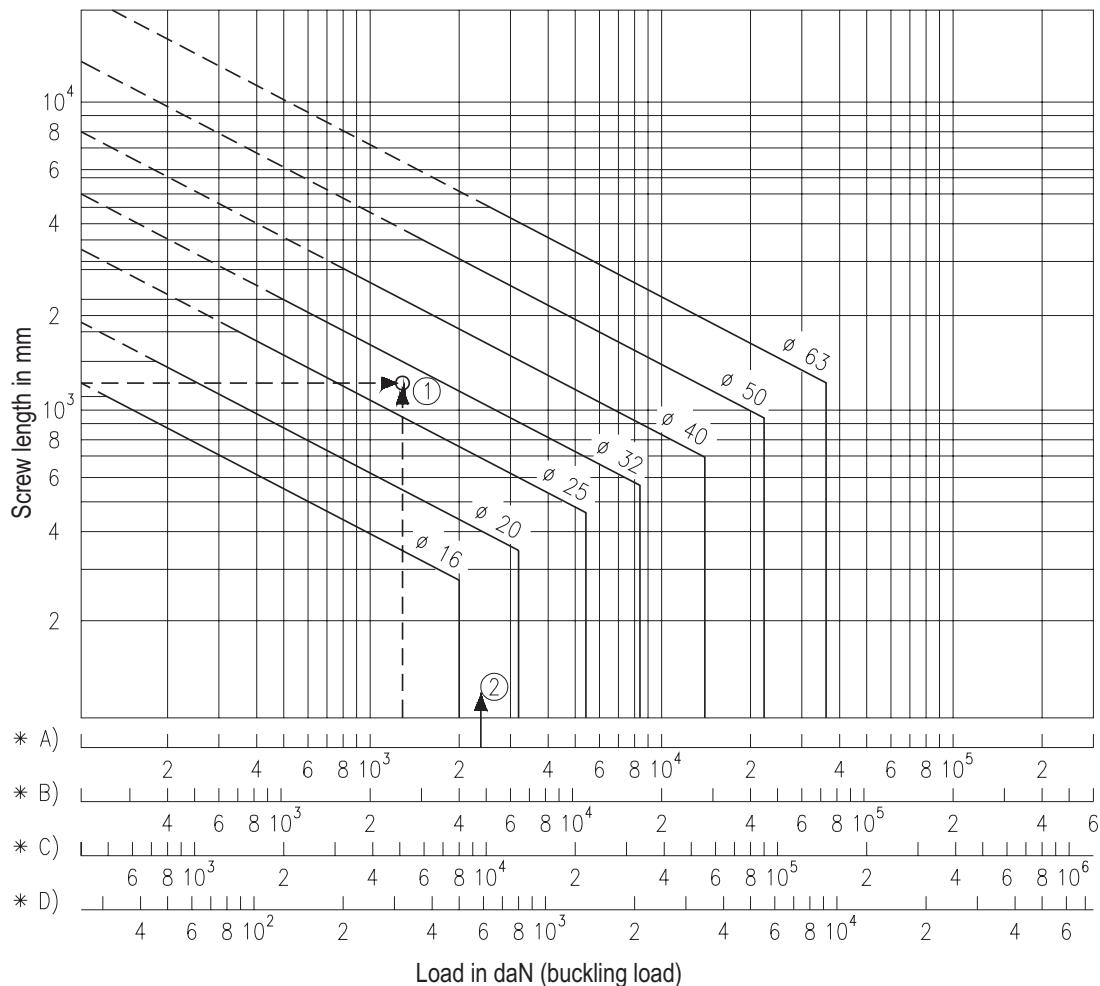
Figures A, B, C and D show the correct support systems with compression/tensile LOAD.



BUCKLING LOAD

When a buckling load is given to the screw, the system may be subject to deformation.

The following diagram provides data to estimate whether the selected screw is suitable to withstand the buckling load in relation to its length.



The load capacity of a screw varies depending on the diameter, length and fixing of the ends (mounting of support bearings). If the diagram indicates that the selected screw is marginal, another screw with a larger diameter must be selected. In the diagram, the line parallel to the line of the unsupported length represents the permissible compressive or tensile load.

Example:

Max supported length $L_1 = 1200$ mm

Max buckling load = 2500 daN

Support system = fixed/supported (B)

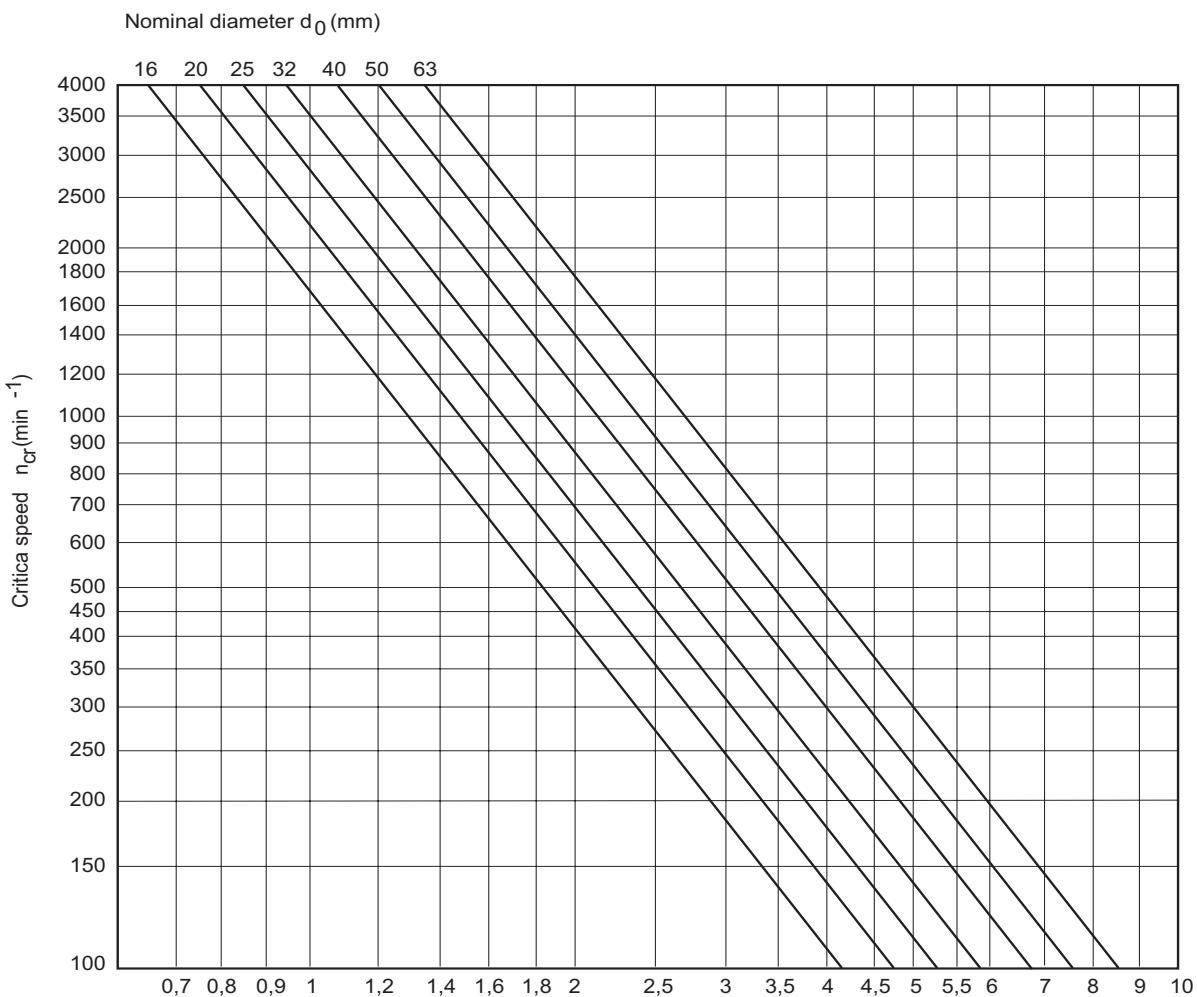
From the diagram of the previous page according to the data used the intersection 1 shows that the correct screw to be used is at least ø32.

CRITICAL SPEEDS

Critical speed of screw

The screw is assimilated to a cylinder with a diameter equal to the core of the screw. The formula used contains a parameter whose value is determined by the mounting of the screw (supported or fixed).

As a rule, the screw nut should not be considered a support for the screw. Due to the potential inaccuracy in screw assembly, a safety coefficient of 0.8 should be applied when calculating the critical speed.



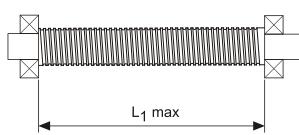
The critical speed (1st order) is a function of the free length of the screw, and of the nominal diameter.

$$\text{Critical speed: } n_{\text{cradm}} = u \cdot n_{\text{cr}} \cdot f_{\text{kr}} \text{ min}^{-1} \quad (11)$$

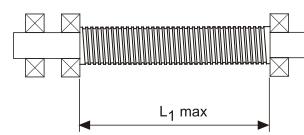
u = safety coefficient [max. = 0,8]

n_{cr} = critical speed [min⁻¹]

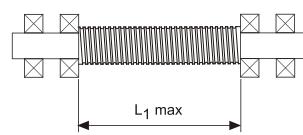
f_{kr} = correction factor depending on support type



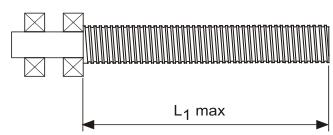
$$\mathbf{A: } f_{\text{kr}} = 1$$



$$\mathbf{B: } f_{\text{kr}} = 1,47$$



$$\mathbf{C: } f_{\text{kr}} = 2,23$$



$$\mathbf{D: } f_{\text{kr}} = 0,36$$



Screw core diameter					
2,38 mm ball diameter		3,5 mm ball diameter		6,35 mm ball diameter	
Screw diameter (mm)	Core diameter (mm)	Screw diameter (mm)	Core diameter (mm)	Screw diameter (mm)	Core diameter (mm)
16	14,01	16	13,59		
		20	16,83		
		25	21,83		
		32	28,83		
		40 step 5	36,83	40 pitch 10/20/40	35,00
		50 step 5	46,83	50 pitch 10/20/40	45,00
				63 pitch 10/20	58,00

Limiting speed

The limiting speed of screw/nut system is the lowest speed between the critical speeds of the screw or the nut resulting from the speeds, accelerations and forces applied to the balls within the deflectors of recirculation.

The limiting speed of the screw-nut system is that speed that a screw must not exceed to remain in a reliable condition. The limiting speed is directly derived from the formula for the critical speed of the nut and is expressed by the ratio between a characteristic number and the nominal diameter of the screw (mm).

$$V_{\text{lim.}} = n \times D_n \leq 90000$$

n = number of revolutions

Dn = Nominal diameter

The limiting speed thus determined, the result of experimental experiences and considerations, can be applied for a short period and under optimal working conditions.

Continued operation of a screw at the limiting speed can cause a reduction in the calculated life of the screw-nut system. High loads associated with high speeds require an equally high input torque and consequently result in a relatively short nominal life.

In the case of high accelerations and decelerations it is recommended to work with an external load never lower than a minimum value or apply a light preload to the screw nut to avoid slippage of the rolling elements when reversing the motion.

Too high a preload will create an unacceptable increase in internal temperature.

For different needs contact us and we will provide you with the necessary information for the best use of our ball screws.

PRECISION

All ball screws can be manufactured according to **ISO3 - ISO5 - ISO7**.

--°--

The data contained in this catalogue are not binding for **Scaravella F.lli S.r.l.** which reserves the right to vary its production to make technical and production improvements to its products. Each offer is accompanied by one or more technical data sheets relating to the requested supply that are binding for **Scaravella F.lli S.r.l.** towards its customers.



TABELLE MADREVITI STANDARD



STANDARD BALLS CREWS
TABLES

MODE OF TABLE READING

Below are listed and described all information contained into the "STANDARD BALL SCREWS TABLES" listed on the following pages:

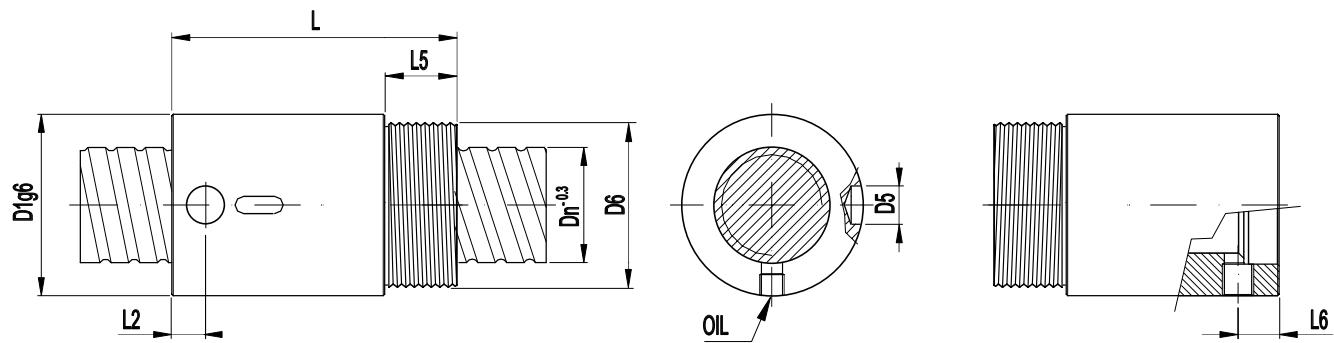
1	2	2	4	5	6	7	8	9	10	11	12	13÷16	17	18								
NOTE mm	Dn mm	Pitch mm	N Circ. balls	DIAMETER mm					S mm	LENGTH mm					LOAD DaN		Rd DaN/ μm	Oil				
				D1g6	D2	D3	D4	D5	D10	L	L1	L2	L3	L4	L5	L6	Ld	Ls				
01	A	32	6	4+4	50	80	65	6x9	4	9	62	87	12	75	16	-	-	1,3	2410	4868	148	M6 151
				19	20	21	22	23	24÷28									29	30	31		

- 1 POS: Row number on page of catalogue,
- 2 NOTE: Identification number of note (or notes) indicates on foot of table,
- 3 Dn: Nominal diameter of screw/nut,
- 4 Pitch: Pitch of thread of the screw/nut ,
- 5 N° Circ. balls: Number of circuits of balls working on thread of screw,
- 6 S: Width of flange milling,
- 7 L: Nut total lenght,
- 8 L1: Flange length (thickness),
- 9 L2: Nut under-flange length,
- 10 L3: Length of centering diameter (g6),
- 11 L4: Length of boring of holes of flange,
- 12 L5: Length of nose of flanged nut ,
- 13 L6: Width on the milling 3rd plane on the flange,
- 14 L7: Horizontal interaxis of holes on square (or rectangular) flange,
- 15 L8: Vertical interaxis of holes on square (or rectangular) flange,
- 16 L9: Length of boring of oil holes under the flange
- 17 Rd: Rigidity
- 18 Oil: Threading (or diameter) of lubrication hole
- 19 D1: Centering diameter (tolerance g6),
- 20 D2: Diameter of the flange,
- 21 D3: Diameter interaxis holes of the flange
- 22 D4: Number of holes of the flange and holes diameter,
- 23 D5: Diameter of boring of the holes of flange,
- 24 D6: Nose diameter,
- 25 D7: Diameter of oil holes under (upper) the flange,
- 26 D8: Diameter interaxis of oil holes under the flange,
- 27 D9: Diameter interaxis of oil holes upper the flange
- 28 D10: Diameter of boring of the lubrication hole under the flange,
- 29 Ld: Dynamic load,
- 30 Ls: Static load,
- 31 COD.DIS: Univocal drawing code.

For faster and more effective research and identification of the nut, use **eCat.S.** "eCat.S" is our the easy and intuitive software that allows you to identify the screw you need from all our production range. Download ad install the software by click on link on side (https://scaravella.eu/download/eCatS_Install.exe).



NOTE: Use COD.DIS. (Univocal drawing code), with the letter "C" before for exactly identify the ball screw nut, for requested, informations, orders, ecc., (for example "C151"). For identify the ball screw nut with Left hand thread replace "C" with "S" (for example "S151").



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

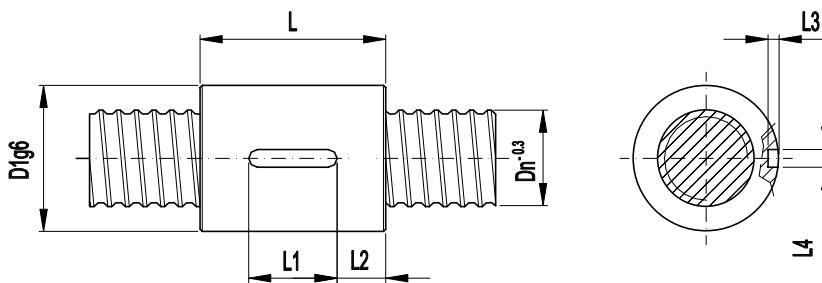
N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm					S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil			
				D1g6	D2	D3	D4	D5		L	L1	L2	L3	L4	L5	L6	Ld	Ls				
01	16	5	3	33	-	-	-	3,2	M26x1,5	-	45	-	3	-	-	12	2,5	1368	1857	-	- 488	
02																						
03	1	20	5	4	38	-	-	-	8	M35x1,5	-	54	-	8	-	-	14	8	1876	2985	-	M6 556
04		20	10	4	38	-	-	-	8	M35x1,5	-	75	-	8	-	-	14	9,5	1917	2984	-	M6 575
05																						
06		25	5	5	43	-	-	-	8	M40x1,5	-	69	-	8	-	-	19	8	2400	4710	-	M6 525
07		25	10	4	43	-	-	-	8	M40x1,5	-	81	-	12	-	-	19	10	2150	3770	-	M6 524
08																						
09		32	5	5	52	-	-	-	8	M48x1,5	-	64	-	8	-	-	19	9	2932	6085	-	M6 538
10		32	10	4	54	-	-	-	8	M48x1,5	-	81	-	15	-	-	19	8	2505	4868	-	M6 522
11		32	10	5	54	-	-	-	8	M48x1,5	-	90	-	15	-	-	19	8	3131	6085	-	M6 578
12																						
13		40	5	4	60	-	-	-	8	M56x1,5	-	65	-	8	-	-	19	9	3311	7653	-	M6 539
14		40	10	4	65	-	-	-	8	M60x1,5	-	105	-	15	-	-	24	16	5985	11099	-	M8x1 540
15																						
16																						
17																						
18																						
19																						
20																						
21																						
22																						
23																						

(1) Available also with left hand thread



PAGINA LASCIATA INTENZIONALMENTE BIANCA

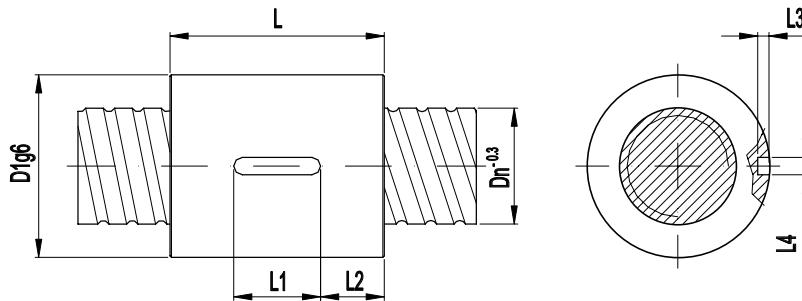
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Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

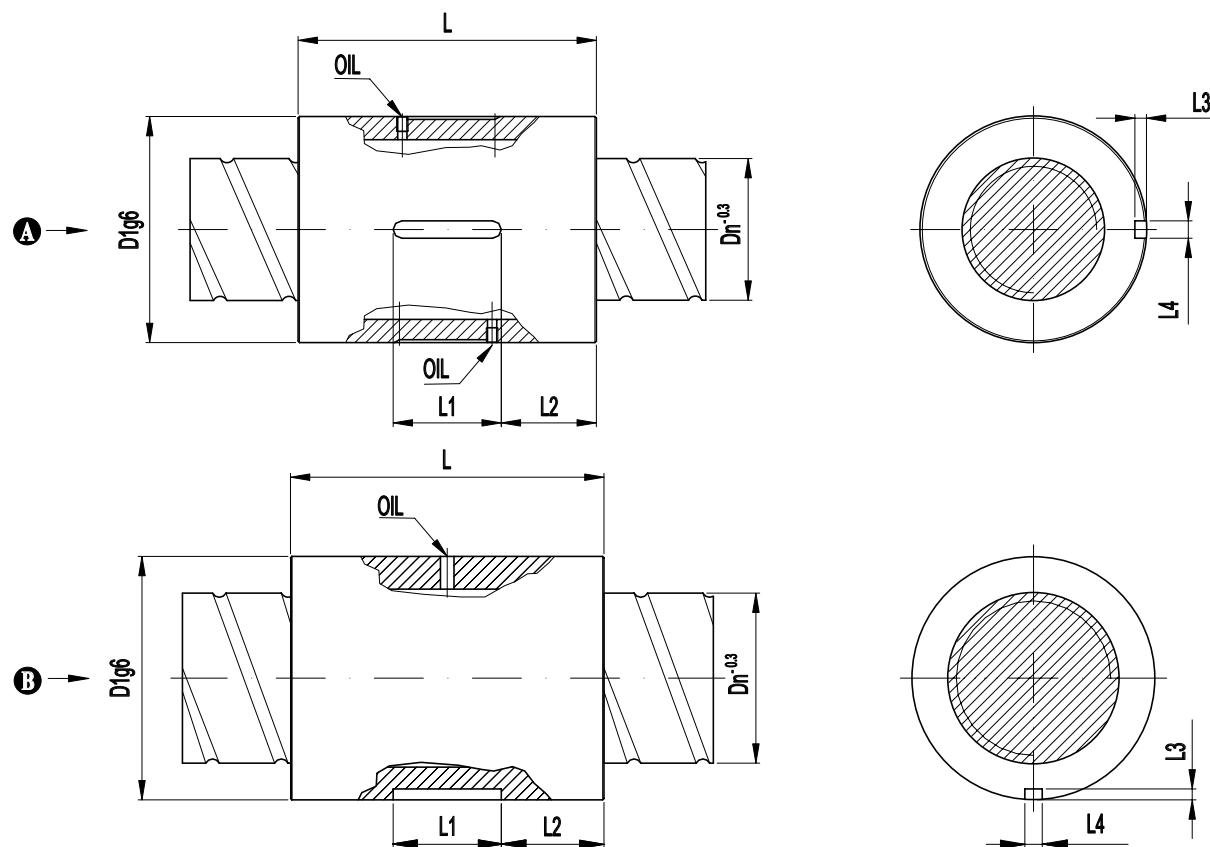
N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil		
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
03	16	5	3	28	-	-	-	-	-	40	15	12,5	2,5	4	-	-	1368	1857	-	-	083	
21	16	5	4	28	-	-	-	-	-	47	20	13,5	2,5	4	-	-	1824	2746	-	Ø3	346	
05	1 ¹	20	5	33	-	-	-	-	-	42	20	11	2,5	4	-	-	1508	2239	-	Ø3	084	
30	20	5	4	33	-	-	-	-	-	48	25	11,5	2,5	4	-	-	1876	2985	-	-	318	
06	20	10	3	38	-	-	-	-	-	53	25	14	3	5	-	-	1498	2238	-	M4	085	
08	1 ¹	25	5	38	-	-	-	-	-	42	20	11	2,5	4	-	-	1684	2827	-	Ø3	086	
31	25	5	3	40	-	-	-	-	-	42	20	11	2,5	4	-	-	1684	2827	-	Ø3	319	
09	25	5	4	38	-	-	-	-	-	48	20	14	2,5	4	-	-	2157	3769	-	Ø3	087	
32	25	5	4	40	-	-	-	-	-	48	20	14	2,5	4	-	-	2157	3769	-	Ø3	320	
10	25	10	3	40	-	-	-	-	-	51,5	20	15,5	3	5	-	-	1678	2827	-	M4	255	
12	25	10	3	43	-	-	-	-	-	51	20	15,5	3	5	-	-	1678	2827	-	M4	256	
13	25	10	4	40	-	-	-	-	-	62	20	21	3	5	-	-	2150	3770	-	M4	257	
14	25	10	4	43	-	-	-	-	-	62	20	21	3	5	-	-	2150	3770	-	M4	258	
15	1 ¹	25	20	2	43	-	-	-	-	-	58	25	16,5	3	5	-	-	1167	1884	-	M4	089
17	32	5	3	48	-	-	-	-	-	42	20	11	3	5	-	-	1882	3650	-	M4	090	
18	2 ³	32	5	4	48	-	-	-	-	-	48	20	14	3	5	-	-	2412	4868	-	M4	091
33	32	5	4	50	-	-	-	-	-	48	20	14	3	5	-	-	2412	4868	-	M4	316	
34	32	5	6	48	-	-	-	-	-	58	20	19	3	5	-	-	3419	7302	-	M4	317	
19	32	6	4	48	-	-	-	-	-	54	25	14,5	3	5	-	-	2410	4868	-	-	092	
20	32	6	5	50	-	-	-	-	-	58	25	16,5	3	5	-	-	2920	6085	-	-	093	
35																						
36																						
37																						

(1) Available also with left hand thread (23) Available also with left hand thread, WITHOUT oil hole


 Limiting speed of screw/nut system: $n \times Dn \leq 90000$ (n = revolution/minutes Dn = Nominal diameter)

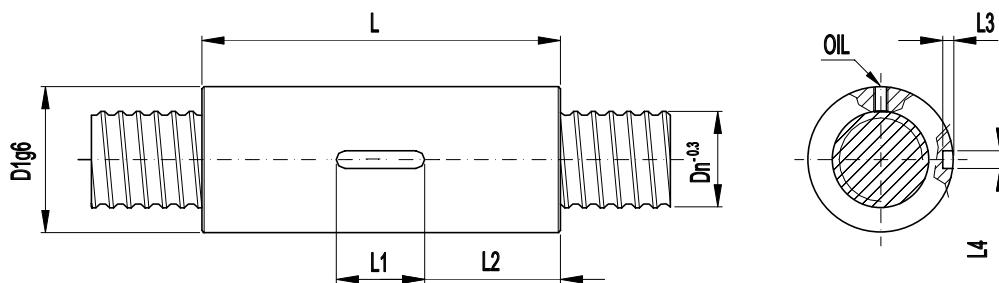
N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
01	32	10	3	50	-	-	-	-	-	-	51	20	15,5	3	5	-	-	1879	3651	-	M4 259
02	32	10	4	50	-	-	-	-	-	-	62	20	21	3	5	-	-	2505	4868	-	M4 260
30	32	10	5	50	-	-	-	-	-	-	74	30	22	3	5	-	-	3131	6085	-	M4 322
03																					
04	32	12	4	50	-	-	-	-	-	-	72,6	25	23,8	3	5	-	-	2501	4868	-	- 286
05																					
06	32	20	2	50	-	-	-	-	-	-	58	25	16,5	3	5	-	-	1314	2434	-	M4 098
07	1	32	25	2	50	-	-	-	-	-	68	30	19	3	5	-	-	1305	2434	-	- 099
08																					
09	1	40	5	4	56	-	-	-	-	-	48	20	14	3	5	-	-	2649	6123	-	- 100
10	1	40	5	6	56	-	-	-	-	-	58	20	19	3	5	-	-	3755	9184	-	- 101
11																					
12																					
12	40	6	6	63	-	-	-	-	-	-	67,5	20	23,75	3	5	-	-	3973	9184	-	- 249
13																					
14	40	10	3	63	-	-	-	-	-	-	74	30	22	3,5	6	-	-	4673	8324	-	Ø5 104
15	40	10	4	62	-	-	-	-	-	-	94,5	30	32,25	3	5	-	-	5985	11099	-	M5 105
16																					
31	50	5	5	68	-	-	-	-	-	-	53	20	16,5	3	5	-	-	3422	9613	-	M4 401
32	50	5	6	66	-	-	-	-	-	-	58	20	19	3	5	-	-	4107	11536	-	M4 330
33	50	5	6	68	-	-	-	-	-	-	58	20	19	3	5	-	-	4107	11536	-	M4 400
18																					
19	50	10	4	72	-	-	-	-	-	-	94,5	30	32,25	3	5	-	-	6640	13946	-	M4 108
20	50	10	6	72	-	-	-	-	-	-	118	40	39	3	5	-	-	9411	20919	-	- 109

(1) Available also with left hand thread

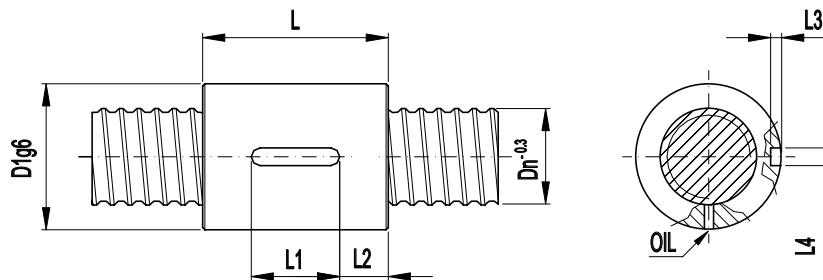


Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

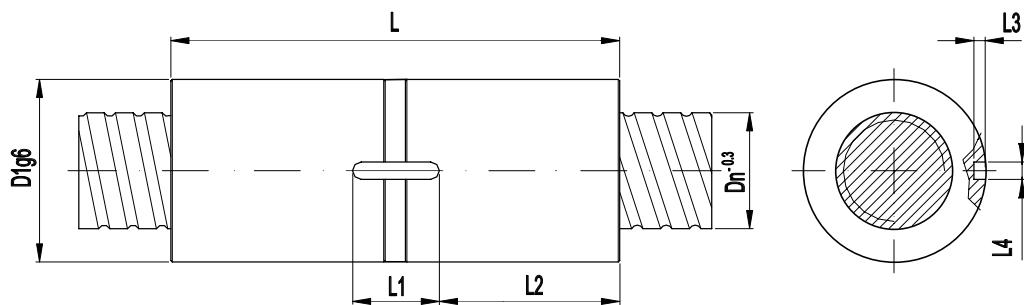
N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
13	A	40	20	3	68	-	-	-	-	-	103	50	26,5	3,5	6	-	-	4648	8324	-	M4 106
14	A	40	40	2	68	-	-	-	-	-	116	50	33	3,5	6	-	-	3211	5549	-	M4 107
15																					
01	A	50	20	3	75	-	-	-	-	-	103	50	26,5	3,5	6	-	-	5166	10459	-	M4 284
02	A	50	20	3	78	-	-	-	-	-	103	50	26,5	3,5	6	-	-	5166	10459	-	M4 110
03	A	50	20	4	78	-	-	-	-	-	126	50	38	3,5	6	-	-	6888	13945	-	M4 111
04	A	50	20	4	75	-	-	-	-	-	126	50	38	3,5	6	-	-	6888	13495	-	M4 300
05																					
06	A	50	40	2	78	-	-	-	-	-	116	50	33	3,5	6	-	-	3594	6973	-	M4 112
07																					
08	B	63	10	6	90	-	-	-	-	-	116	40	38	4	8	-	-	10396	26468	-	M6 113
09																					
10	A	63	20	3	90	-	-	-	-	-	103	50	26,5	3,5	6	-	-	5714	13234	-	M4 114
11	A	63	20	4	90	-	-	-	-	-	126	50	38	3,5	6	-	-	7618	17645	-	M4 326
12																					


 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	
01	20	5	3+3	33	-	-	-	-	-	77,5	25	25,5	2,5	4	-	-	1508	2239	78	M4 206
02																				
03																				
04																				
05																				
<input type="text"/>																				

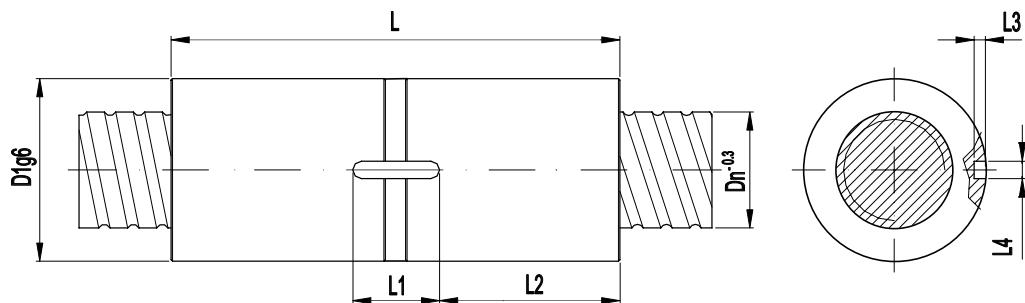

 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	
06	32	5	3+3	50	-	-	-	-	-	58	20	19	3	5	-	-	1882	3650	118	M4 207
07																				
08																				
09																				
10																				
<input type="text"/>																				

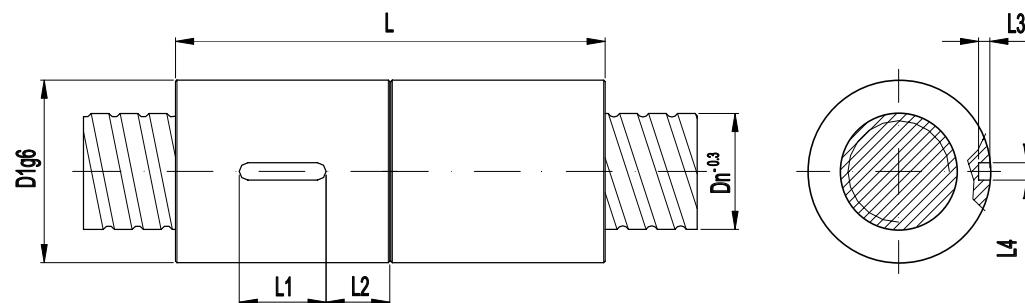


Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

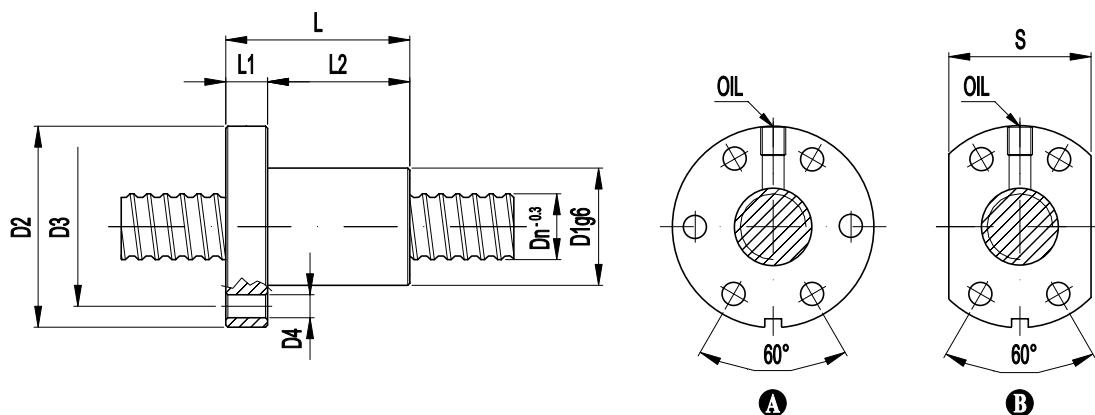
N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
01	20	5	3+3	33	-	-	-	-	-	77	25	25	2,5	4	-	-	1508	2239	78	-	117
02																					
03	25	5	3+3	38	-	-	-	-	-	77	25	25	2,5	4	-	-	1684	2827	98	Ø3	118
04	25	5	4+4	38	-	-	-	-	-	88	25	31	2,5	4	-	-	2245	3769	118	Ø3	119
05																					
06	32	5	3+3	48	-	-	-	-	-	77	25	25,5	3	5	-	-	1882	3650	118	Ø3	120
07	32	5	4+4	48	-	-	-	-	-	88	25	31	3	5	-	-	2412	4868	148	Ø3	121
08	32	5	4+4	50	-	-	-	-	-	88	25	31	3	5	-	-	2412	4868	148	Ø3	122
09																					
10	40	5	4+4	56	-	-	-	-	-	88	25	31	3	5	-	-	2649	6123	177	-	123
11	40	5	6+6	56	-	-	-	-	-	108	25	41	3	5	-	-	3973	9184	265	-	124
12	40	6	4+4	56	-	-	-	-	-	102	25	38	3	5	-	-	2649	6123	168	-	125
13	40	10	3+3	62	-	-	-	-	-	140	30	54	3	6	-	-	4673	8324	148	-	126
14	40	10	4+4	62	-	-	-	-	-	165	30	65	3	6	-	-	5985	11099	187	-	127
15	40	10	6+6	62	-	-	-	-	-	214	40	87	3	6	-	-	8483	16648	280	-	128
16																					
17	50	5	4+4	66	-	-	-	-	-	88	25	31	3	5	-	-	2898	7690	217	-	129
18	50	5	6+6	66	-	-	-	-	-	108	25	41	3	5	-	-	4107	11536	315	-	130
19	50	10	3+3	72	-	-	-	-	-	140	35	52	3,5	8	-	-	5185	10459	176	-	131
20	50	10	4+4	72	-	-	-	-	-	165	35	63	3	8	-	-	6640	13946	236	-	132
21	50	10	4+4	75	-	-	-	-	-	165	35	63	3,5	8	-	-	6640	13946	236	-	133
22																					
23																					


 Limiting speed of screw/nut system: $n \times Dn \leq 90000$ (n = revolution/minutes Dn = Nominal diameter)

N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
01	63	10	4+4	85	-	-	-	-	-	-	164,5	35	63	3	8	-	-	7335	17645	284	- 133
02	63	10	4+4	90	-	-	-	-	-	-	164,5	35	63	3,5	8	-	-	7335	17645	284	- 134
03	63	10	5+5	85	-	-	-	-	-	-	192,5	40	76,5	3	8	-	-	8887	22057	353	- 135
04	63	10	5+5	90	-	-	-	-	-	-	192,5	40	76,5	3,5	8	-	-	8887	22057	353	- 136
05																					


 Limiting speed of screw/nut system: $n \times Dn \leq 90000$ (n = revolution/minutes Dn = Nominal diameter)

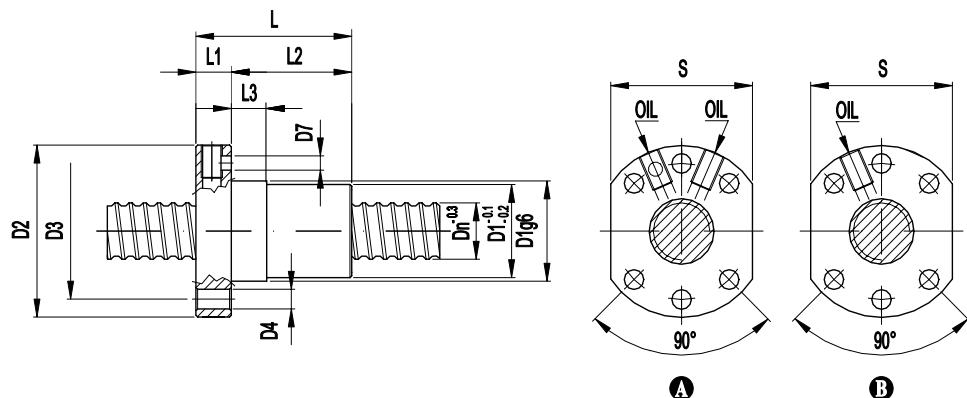
N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
06	32	10	3+3	50	-	-	-	-	-	-	103	20	15,5	3	5	-	-	1879	3651	116	M4 259
07	32	10	4+4	50	-	-	-	-	-	-	124	20	21	3	5	-	-	2505	4868	155	M4 260
08																					
09																					
10																					



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

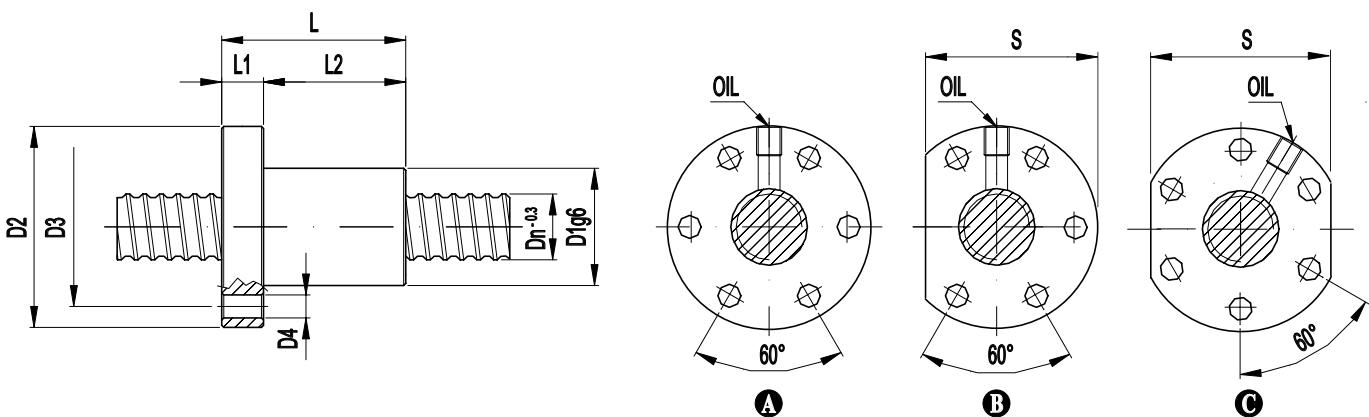
N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
06	A1	16	5	3	28	48	38	6x5,5	-	-	-	44	10	34	-	-	-	1368	1857	-	M6 005
07	B	16	5	3	28	48	38	4x5,5	-	-	32	44	10	34	-	-	-	1368	1857	-	M6 493
09	A	16	5	4	28	48	38	6x5,5	-	-	-	50	10	40	-	-	-	1824	2746	-	M6 315
10																					
11																					
12																					
13																					
14																					
15																					
16																					
17																					
18																					
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25																					
26																					
27																					
28																					
29																					

(1) Available also with left hand thread


 Limiting speed of screw/nut system: $n \times Dn \leq 90000$ (n = revolution/minutes Dn = Nominal diameter)

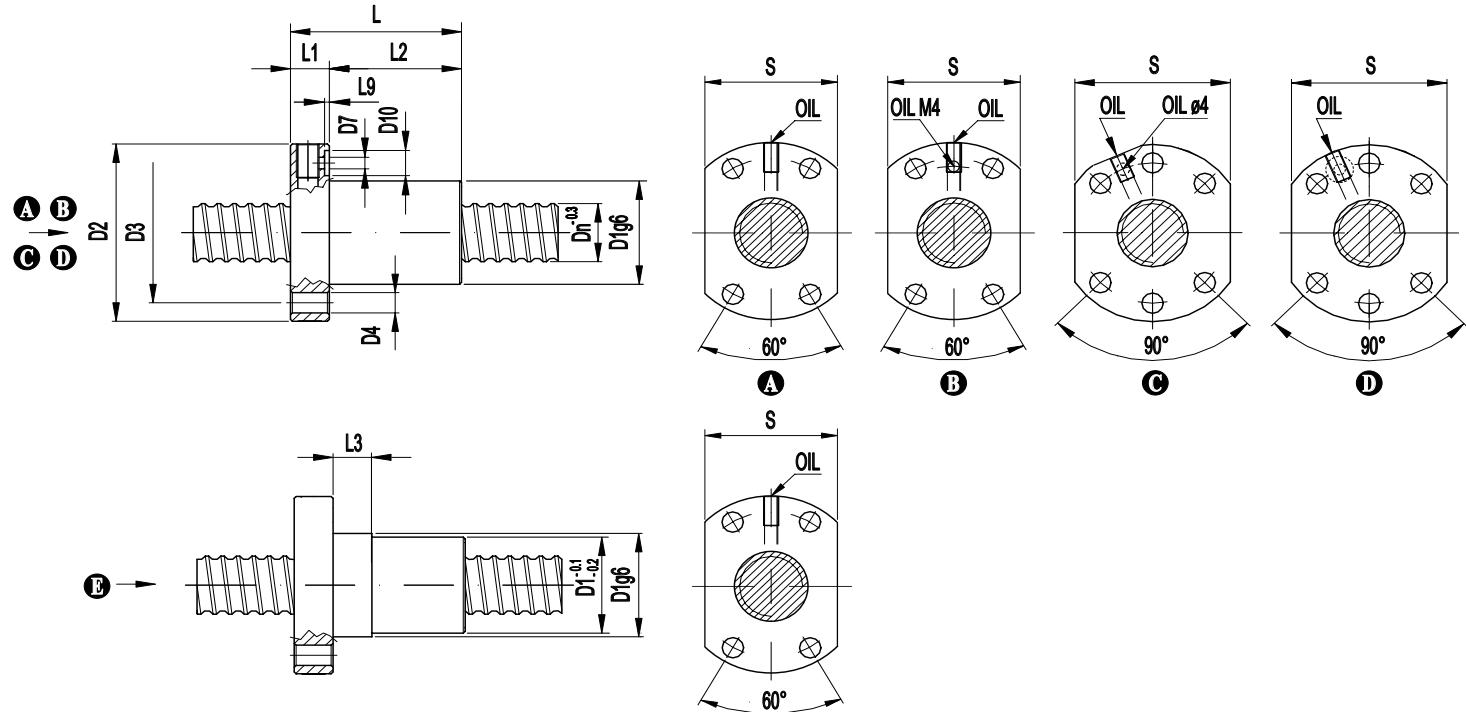
N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D7		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
01	A ^{1/17}	16	5	3	28	48	38	6x5,5	-	4	35	44	10	34	10	-	-	1368	1857	-	M6 007
02	A ¹⁷	16	5	4	28	48	38	6x5,5	-	4	40	50	10	40	10	-	-	1824	2748	-	M6 314
03	B	16	10	3	28	48	38	6x5,5	-	-	40	57	10	47	-	-	-	993	2161	-	M6 755

(!) - Available also with left hand thread (17) - D7 = Ø 4 int. Ø 38


 Limiting speed of screw/nut system: $n \times Dn \leq 90000$ (n = revolution/minutes Dn = Nominal diameter)

N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
06	A ¹	20	5	3	33	57,5	45	6x6,6	-	-	-	45	10	35	-	-	-	1508	2239	-	M6 008
07	B	20	5	3	33	57,5	45	5x6,6	-	-	49	45	10	35	-	-	-	1508	2239	-	M6 009
11	A	20	5	4	33	57,5	45	6x6,6	-	-	50	10	40	-	-	-	-	1876	2985	-	M6 496
08	A ⁴	25	5	3	38	63	50	6x6,6	-	-	-	45	10	35	-	-	-	1684	2827	-	M6 274
09	C	25	5	3	38	63	50	6x6,6	-	-	59	45	10	35	-	-	-	1684	2827	-	M6 010
10	A ¹	25	5	4	38	63	50	6x6,6	-	-	51	10	41	-	-	-	-	2157	3769	-	M6 011

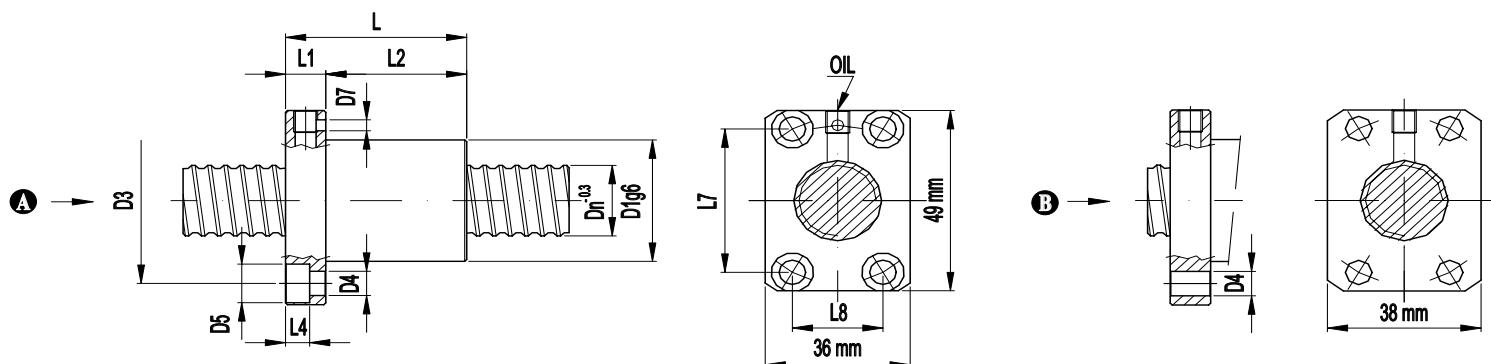
(!) - Available also with left hand thread (4) - Available ONLY with left hand thread



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

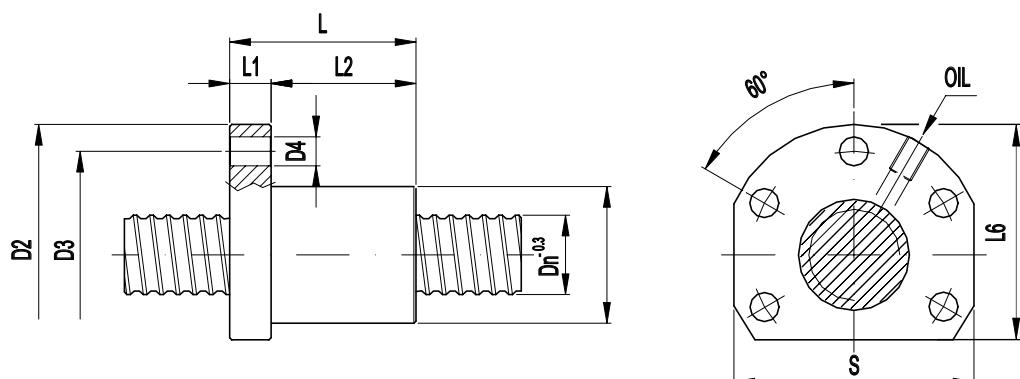
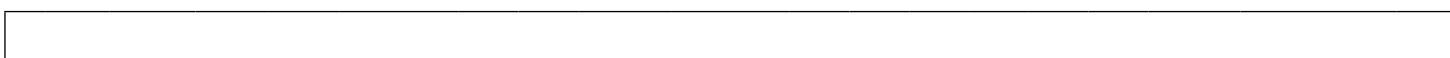
N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D7	D10		L	L1	L2	L3	L4	L5	L9	Ld	Ls		
01	A	20	5	3	33	57,5	45	4x6,6	-	-	38	45	10	35	-	-	-	1508	2239	-	M6 012
14	D ¹¹	20	10	3	36	58	47	6x6,6	-	-	44	53	14	39	-	-	-	1498	2238	-	M6 423
02	A	20	10	3	38	62	51	4x6,6	-	-	40	53	14	39	-	-	-	1498	2238	-	M6 013
03																					
04	B ³⁷	25	5	3	38	63	50	4x6,6	-	-	42	45	10	35	-	-	-	1684	2827	-	M6 014
05	B	25	5	4	38	63	50	4x6,6	-	-	42	51	10	41	-	-	-	2157	3769	-	M6 015
07	A	25	10	3	43	65	55	4x6,6	-	-	45	51,5	14	37,5	-	-	-	1678	2827	-	M6 262
08	C ^{1/11}	25	10	4	40	62	51	6x6,6	-	-	48	62	12	50	-	-	-	2150	3770	-	M6 263
09	A	25	10	4	43	65	55	4x6,6	-	-	45	62	14	48	-	-	-	2150	3770	-	M6 264
20																					
21	A	25	15	3	43	65	55	4x6,6	-	-	45	66	14	52	-	-	-	1674	2826	-	M6 306
22																					
23	D ¹¹	25	20	2	43	65	55	6x6,6	-	-	50	61	14	47	-	-	-	1167	1884	-	M6 321
10	A ¹	25	20	2	43	65	55	4x6,6	-	-	45	61	14	47	-	-	-	1167	1884	-	M6 018
11																					
12	E ¹	32	20	2	50	80	65	4x8,7	-	-	54	61	14	47	16	-	-	1314	2434	-	M6 021
24	E	32	20	3	50	80	65	4x8,7	-	-	54	81	14	67	16	-	-	1971	3651	-	M6 454
13	E ¹	32	25	2	50	80	65	4x8,7	-	-	54	71	14	57	16	-	-	1305	2434	-	M6 022

(¹) - Available also with left hand thread (¹¹) WITHOUT under flange oil hole (³⁷) Available also Left hand thread WITHOUT Oil hole M4


 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm					S mm	LENGTH mm					LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5		L	L1	L2	L3	L4	L7	L8	Ld	Ls

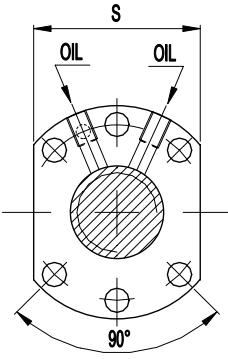
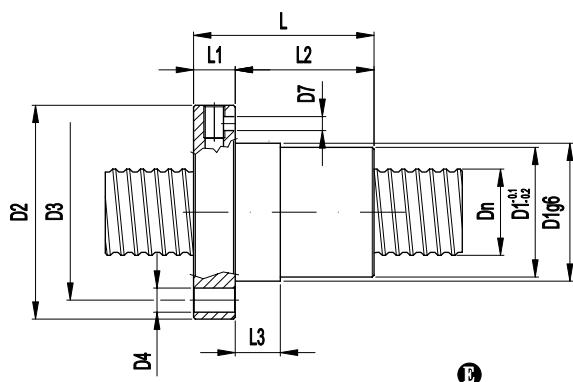
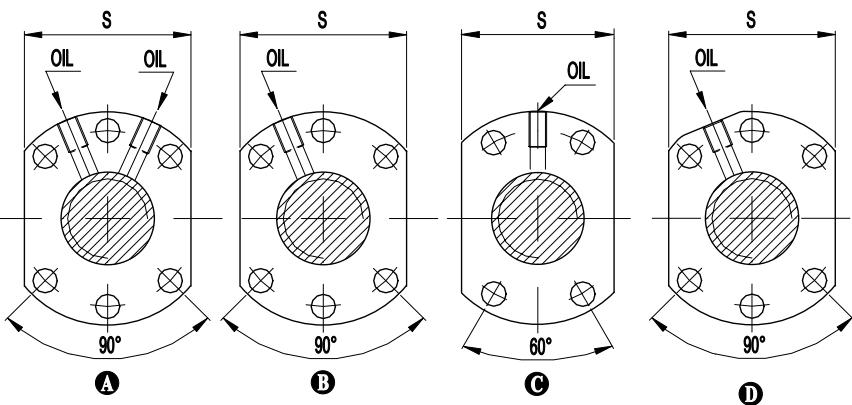
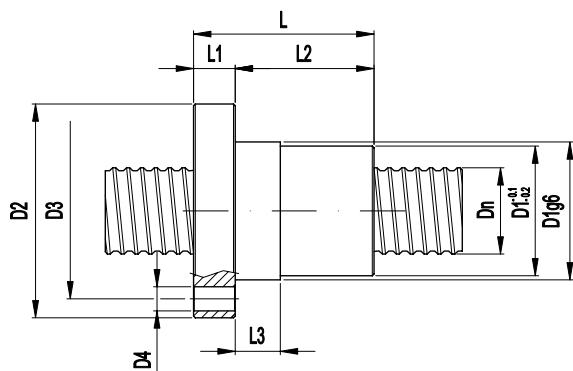
01	A	20	5	3	33	-	45	6,6	10,5	3	-	45	10	35	-	6	39	22,5	1508	2239	-	M6 023
02																						
03	B	20	5	3	33	-	45	6,6	-	-	-	45	10	35	-	-	39	22,5	1508	2239	-	M6 024
04																						
05																						


 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm					S mm	LENGTH mm					LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5		L	L1	L2	L3	L4	L5	L6	Ld	Ls

06	25	5	4	38	63	50	5x6,6	-	-	58	51	10	41	-	-	-	52	2157	3769	-	M6 025	
07																						
08																						
09																						
10																						

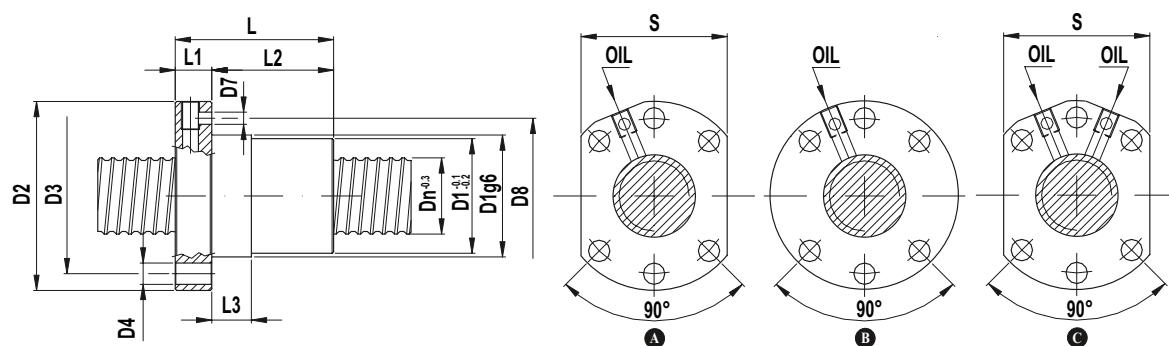




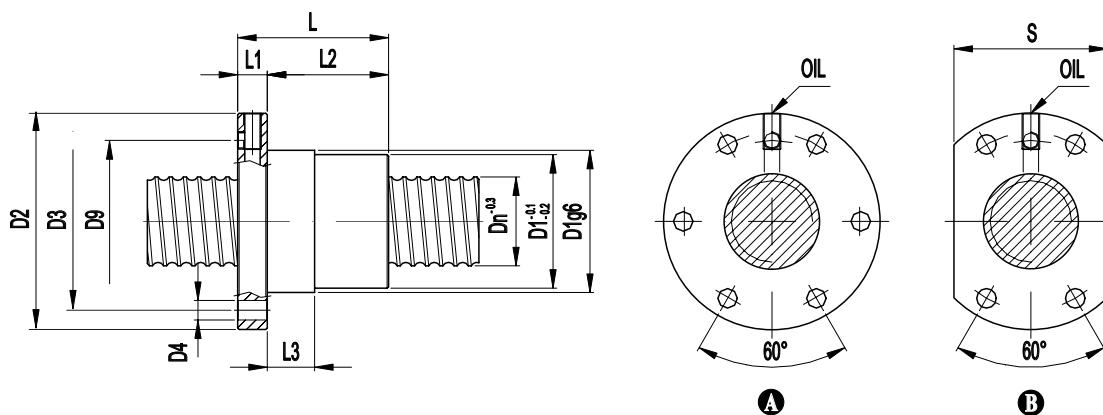
Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm							S mm	LENGTH mm							LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D7	L		L1	L2	L3	L4	L5	L6	Ld	Ls			
01	E ¹	20	5	3	36	58	47	6x6,6	-	4	44	45	10	35	-	-	-	-	1508	2239	-	M6 212
02	A	20	5	4	36	58	47	6x6,6	-	-	44	50	10	40	-	-	-	-	1876	2985	-	M6 402
20	A	20	10	4	36	58	47	6x6,6	-	-	44	65	14	51	15	-	-	-	1917	2984	-	M6 457
23																						
03	B	25	10	3	43	62	51	6x6,6	-	-	48	51	10	41	-	-	-	-	1678	2827	-	M6 027
04																						
05	B ¹	32	5	4	50	80	65	6x9	-	-	62	53	12	41	12	-	-	-	2412	4868	-	M6 028
25	D	32	5	5	50	80	65	6x9	-	-	62	58	12	46	16	-	-	-	2932	6085	-	M6 409
07	C ¹	32	10	3	50	80	65	4x9	-	-	54	51	14	37	16	-	-	-	1879	3651	-	M6 266
08	B ¹	32	10	4	50	80	65	6x9	-	-	62	62	14	48	16	-	-	-	2505	4868	-	M6 033
09	C ¹	32	10	4	50	80	65	4x9	-	-	54	62	14	48	16	-	-	-	2505	4868	-	M6 268
11	B ¹	32	20	2	50	80	65	6x9	-	-	62	61	14	47	16	-	-	-	1314	2434	-	M6 213
12	B	32	20	3	50	80	65	6x9	-	-	62	81	14	67	16	-	-	-	1971	3651	-	M6 468
26																						
27																						

(¹) - Available also with left hand thread

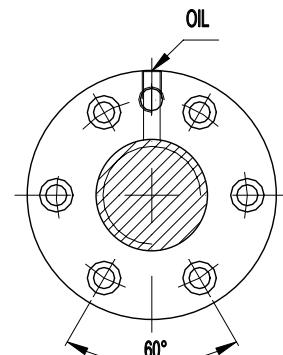
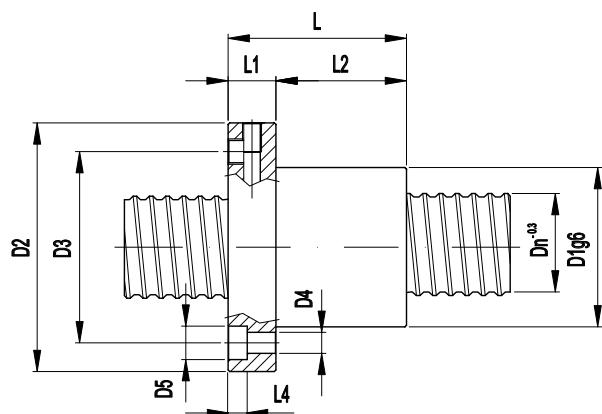

 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D7	D8		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
02	A ⁽¹⁾	25	5	3	40	62	51	6x6,6	-	51	48	47	12	35	12	-	-	1508	2239	-	M6 602
01	A ⁽¹⁾	25	5	4	40	62	51	6x6,6	4	51	48	52	12	40	12	-	-	2157	3769	-	M6 026
03	B	32	5	6	50	80	65	6x9	5	65	-	64	12	52	10	-	-	3419	7302	-	M6 210
04	C	32	5	6	50	80	65	6x9	-	-	62	64	12	52	16	-	-	3419	7302	-	M6 030
11																					

 (1) - Available also with left hand thread ⁽¹¹⁾ - WITHOUT under flange oil hole

 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D7	D9		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
06	A ⁽¹⁾	32	5	4	48	73	60	6x6,6	-	55	-	51	10	41	16	-	-	2412	4868	-	M6 036
07	B ⁽¹⁾	32	5	4	48	73	60	4x6,6	-	55	52	51	10	41	16	-	-	2412	4868	-	M6 041
08	A	32	5	6	48	73	60	6x6,6	-	55	-	62	10	52	16	-	-	3419	7302	-	M6 043
09																					
10																					

(1) - Available also with left hand thread



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

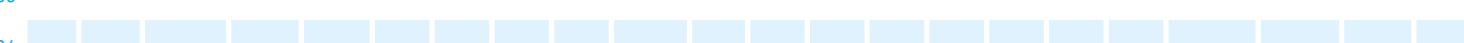
N O T E	mm	mm	N. Circ. balls	DIAMETER mm					S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6	L	L1	L2	L3	L4	L5	L6	Ld	Ls	

02	6	32	5	4	50	78	60	6x6,6	10,5	-	-	56	15	41	-	6	-	-	2412	4868	-	M6 039
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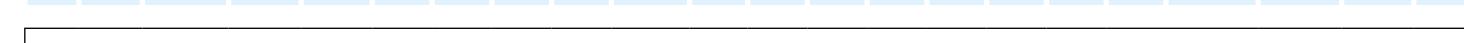
01



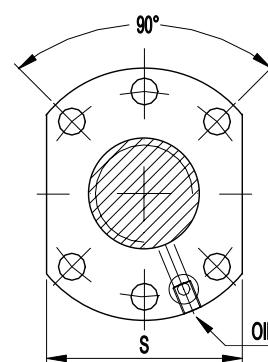
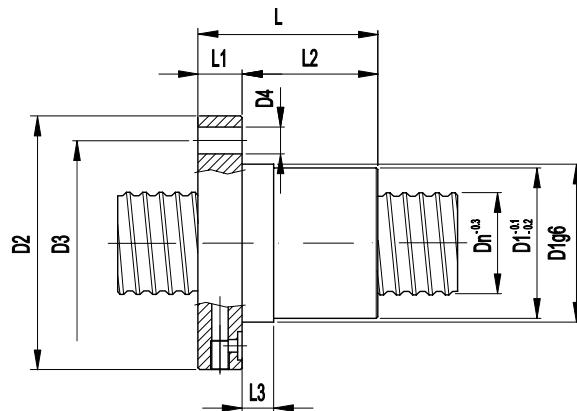
03



04



(⁶) -M8x1 Oil hole over flange



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm					S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6	L	L1	L2	L3	L4	L5	L6	Ld	Ls	

06	7	32	6	5	50	80	65	6x9	-	-	62	64	12	52	16	-	-	-	2920	6085	-	M6 211
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07



08



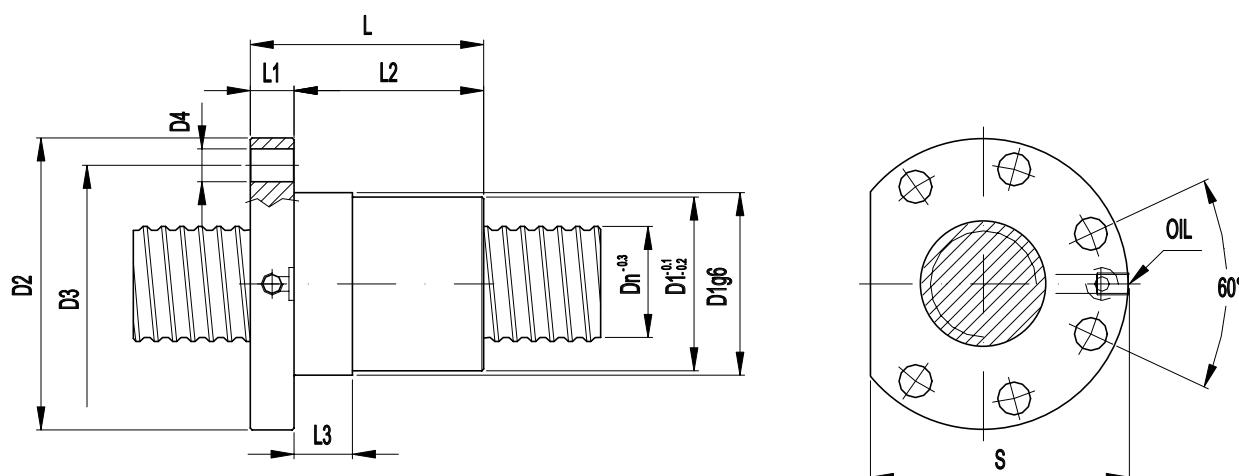
09



10

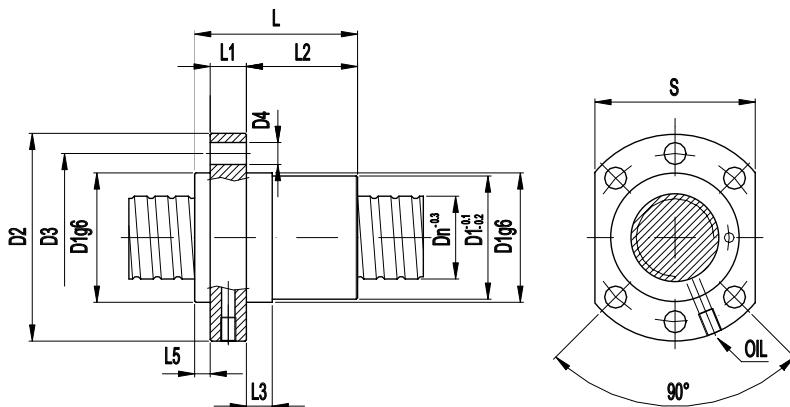


(⁷) - Ø4 Oil hole under flange - Milling ø9 length 1,4mm


 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm					S mm	LENGTH mm						LOAD DaN		Oil		
				D1g6	D2	D3	D4	D5	D6	L	L1	L2	L3	L4	L5	L6	Ld	Ls		
01	7	32	6	5	50	80	65	6x9	-	-	71	64	12	52	16	-	-	2920	6085	- M6 034
02																				
03	7	32	10	4	50	80	65	6x9	-	-	71	62	14	48	16	-	-	2505	4868	- M6 035
04																				
05																				
06																				
07																				
08																				
09																				
10																				
11																				
12																				
13																				
14																				
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16																				
17																				
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19																				

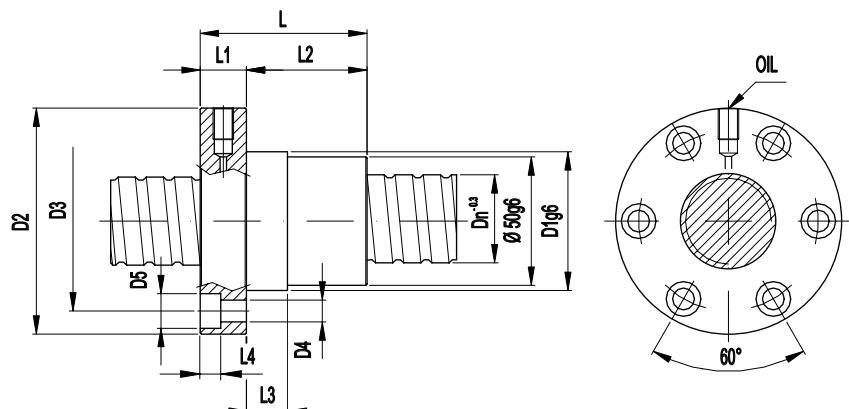
(?) - Ø4 Oil hole under flange - Milling ø9 length 1,4mm



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	

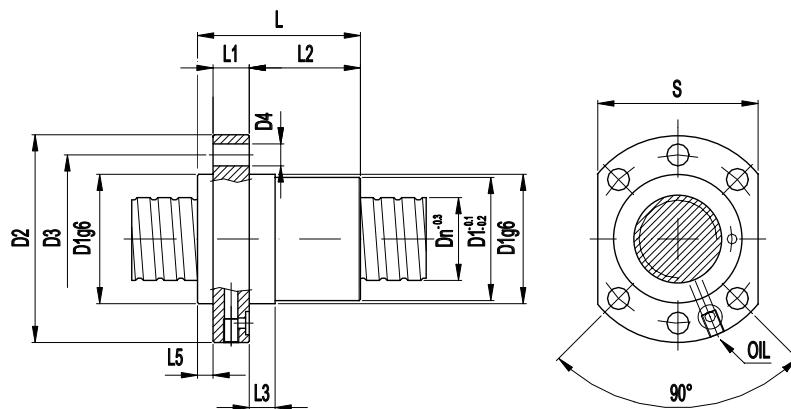
01	32	10	3	50	80	65	6x9	-	-	62	57	14	37	10	-	6	-	1879	3651	-	M6 269
02																					
03	32	10	4	50	80	65	6x9	-	-	62	68	14	48	16	-	6	-	2505	4868	-	M6 273
04	32	10	5	50	80	65	6x9	-	-	62	80	14	60	16	-	6	-	3131	6085	-	M6 323
05																					



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	

06	32	10	3	54	88	70	6x8,5	13,5	-	-	65	18	47	16	8	-	-	1879	3651	-	- 040
07																					
08																					
09																					
10																					


 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	

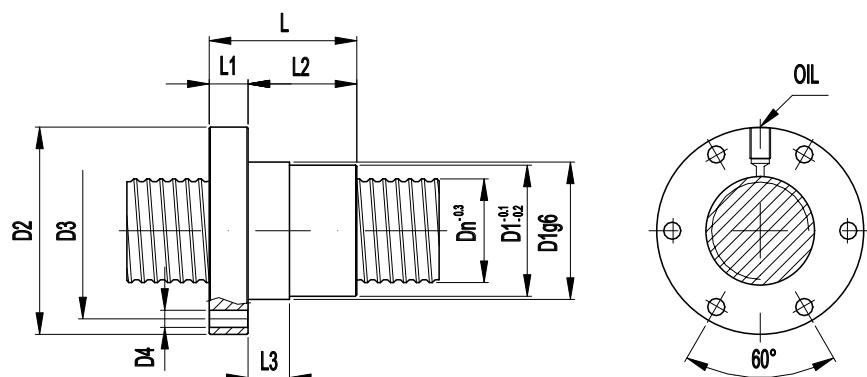
01 7 32 12 4 50 80 65 6x9 - - 62 78,6 14 58,6 10 - 6 - 2501 4868 - M6 285

02

03

04

05


 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	

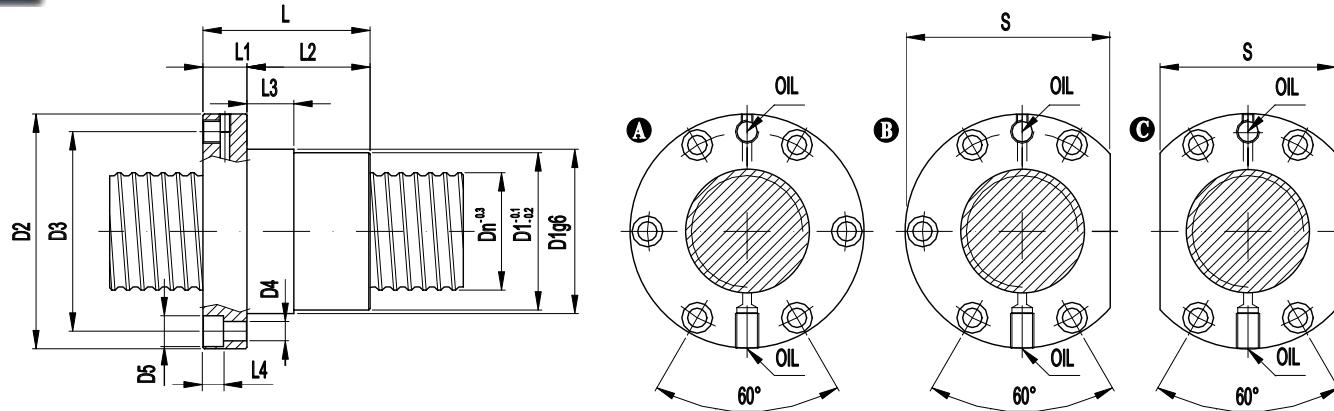
06 40 5 4 53 80 68 6x6,6 - - - 57 15 42 16 - - 2649 6123 - 8x1 044

07

08

09

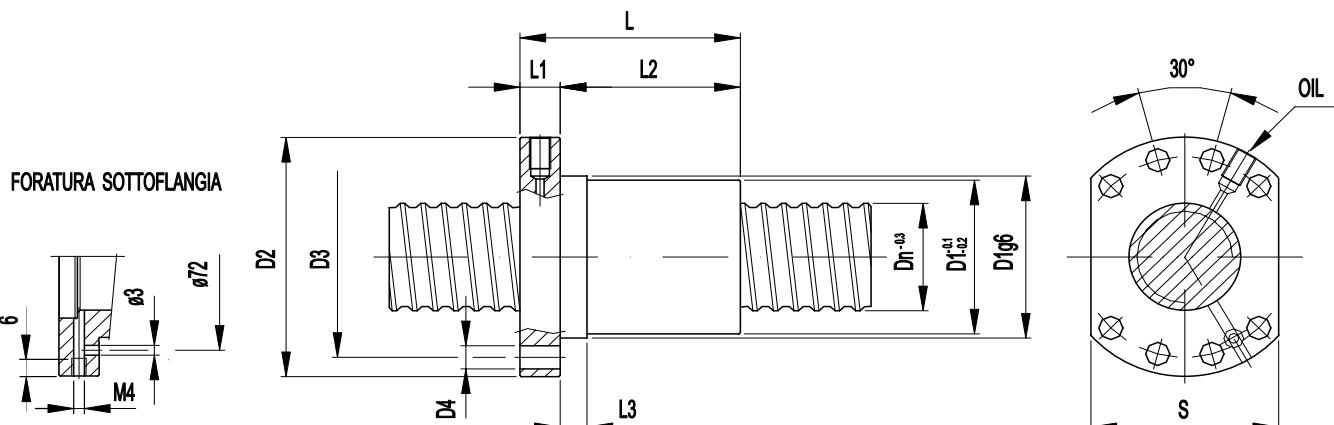
10



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μ m	Oil		
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
01	A ¹	40	5	4	56	80	68	6x6,6	10,5	-	-	57	15	42	16	7	-	-	2649	6123	-	8x1 045
02	C ¹	40	5	4	56	80	68	4x6,6	10,5	-	60	57	15	42	16	7	-	-	2649	6123	-	8x1 046
03	A	40	5	6	56	80	68	6x6,6	10,5	-	-	67	15	52	16	7	-	-	3755	9184	-	8x1 047
04	C	40	5	6	56	80	68	4x6,6	10,5	-	60	67	15	52	16	7	-	-	3755	9184	-	8x1 048
05	B	40	5	6	56	80	68	5x6,6	10,5	-	70	67	15	52	16	7	-	-	3755	9184	-	8x1 215
06																						
07	A	50	5	6	68	98	82	6x8,5	13,5			67	15	52	16	8,5	-	-	4107	11536	-	8x1 049

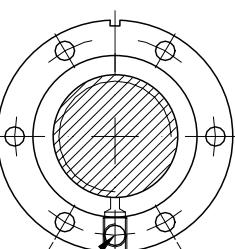
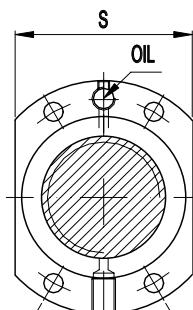
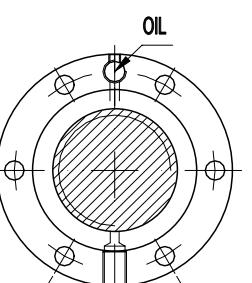
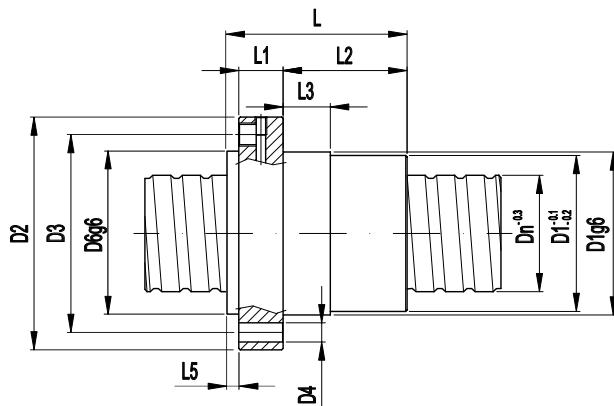
(¹) - Available also with left hand thread



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μ m	Oil		
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
08	1	40	5	4	63	93	78	8x9	-	-	70	57	15	42	10	-	-	-	2649	6123	-	8x1 214
10	8	40	5	5	63	93	78	8x9	-	-	70	60	15	45	16	-	-	-	3311	7653	-	8x1 572
09	8	40	6	6	63	93	78	8x9	-	-	70	75	15	60	16	-	-	-	3973	9184	-	8x1 216

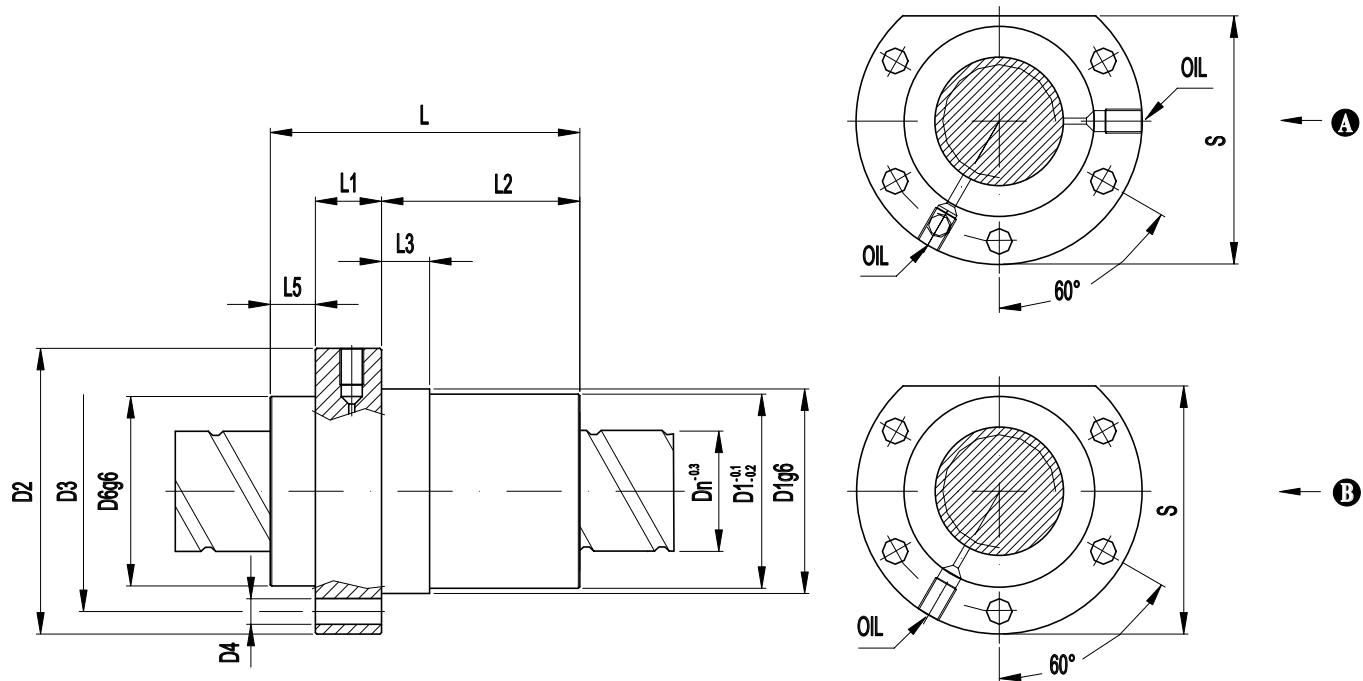
(¹) - Available also with left hand thread (⁽⁸⁾) - WITHOUT under flange Oil hole and WITHOUT Oil hole M4



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	

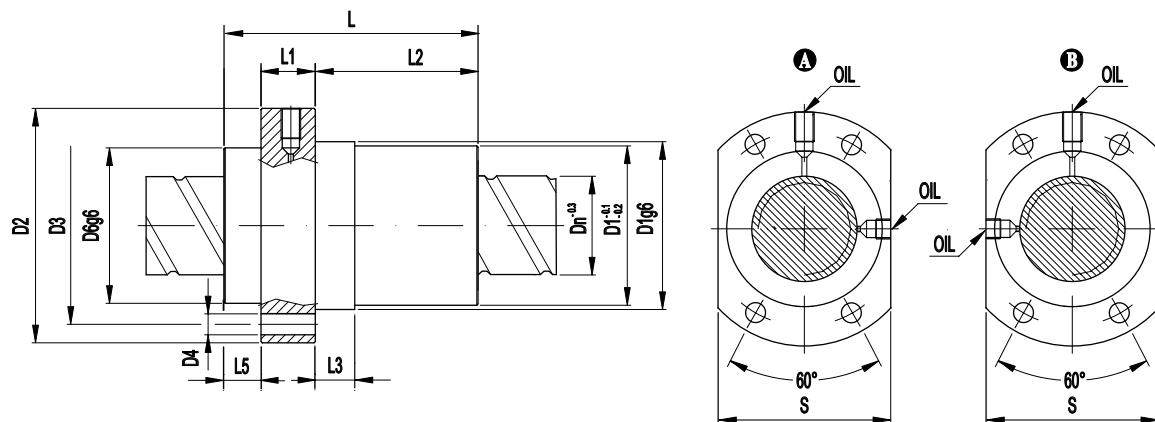
01	A	40	10	3	63	95	78	6x9	-	62	-	88	13	69	16	-	6	-	4673	8324	-	8x1 050
02	B	40	10	3	63	95	78	4x9	-	62	73	88	13	69	16	-	6	-	4673	8324	-	8x1 051
03	A	40	10	4	63	95	78	6x9	-	62	-	99,5	14	79,5	16	-	6	-	5985	11099	-	8x1 052
04	B	40	10	4	63	95	78	4x9	-	62	75	99,5	14	79,5	16	-	6	-	5985	11099	-	8x1 053
05																						
06	A	50	10	4	72	110	90	6x11	-	72	-	103,5	16	80,5	16	-	7	-	6640	13946	-	8x1 054
07	B	50	10	4	72	110	90	4x11	-	72	80	103,5	16	80,5	16	-	7	-	6640	13946	-	8x1 055
08	A	50	10	6	72	110	90	6x11	-	72	-	127	16	104	16	-	7	-	9411	20919	-	8x1 056
09																						
10	C	63	10	6	85	125	105	6x11	-	85	-	126	16	103	16	-	7	-	10396	26468	-	8x1 057
11	C	63	10	6	90	125	105	6x11	-	90	-	126	16	103	16	-	7	-	10396	26468	-	8x1 051
12																						
13																						
14																						
15																						
16																						
17																						
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19																						
20																						
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23																						



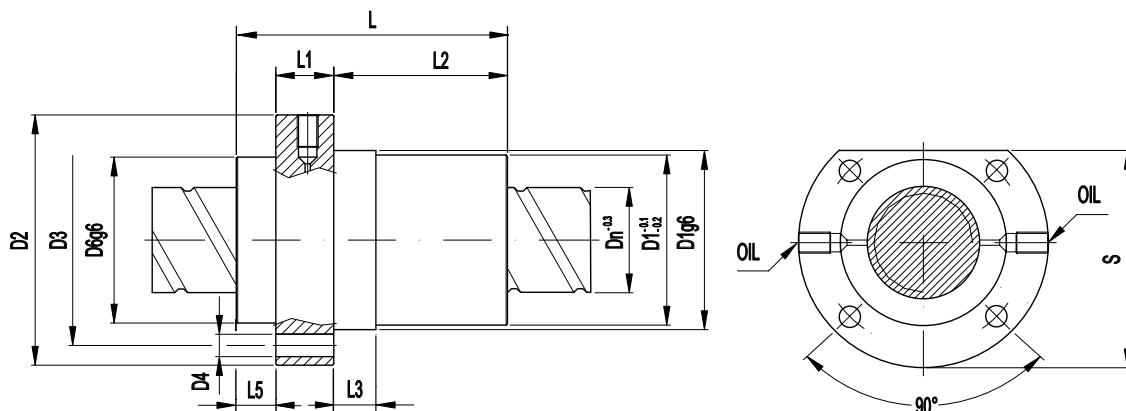
Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm					S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil			
				D1g6	D2	D3	D4	D5	D6	L	L1	L2	L3	L4	L5	L6	Ld	Ls				
01	A	40	20	3	68	95	80	5x8,5	-	63	82,5	105	22	68	16	-	15	-	4648	8324	-	8x1 058
02																						
03	B1	40	40	2	68	95	80	5x8,5	-	63	82,5	116	22	81	16	-	13	-	3211	5549	-	8x1 060
04																						
05																						
06																						
07																						
08																						
09																						
10																						
11																						
12																						
13																						
14																						
15																						
16																						
17																						

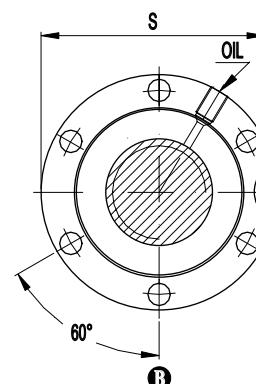
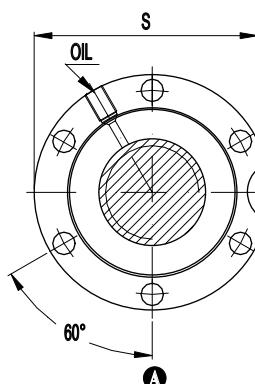
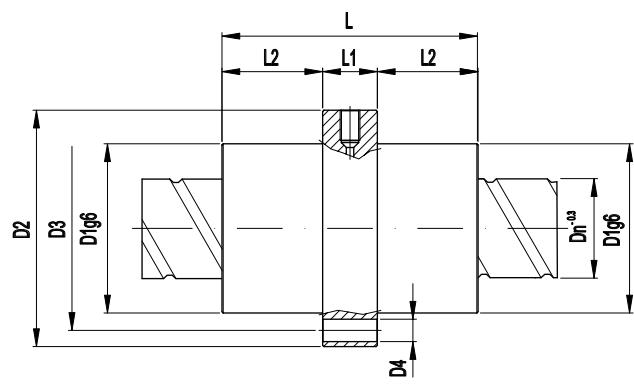
(¹) - Available also with left hand thread


 Limiting speed of screw/nut system: $n \times Dn \leq 90000$ (n = revolution/minutes Dn = Nominal diameter)

N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil		
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
01	A	40	20	3	68	95	80	4x8,5	-	63	70	105	22	68	16	-	15	-	4648	8324	-	8x1 062
02																						
03	B	40	40	2	68	95	80	4x8,5	-	63	70	116	22	81	16	-	13	-	3211	5549	-	8x1 064
04																						
05																						

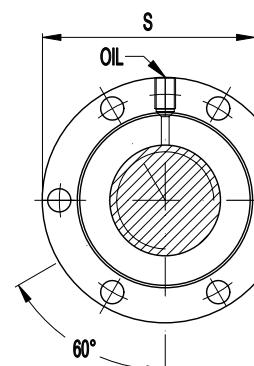
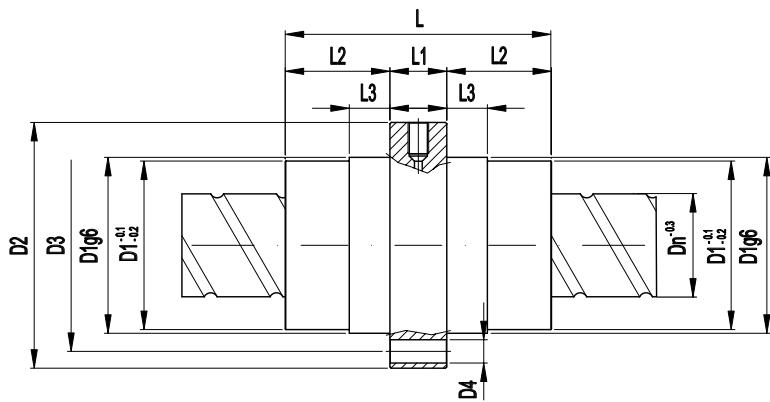

 Limiting speed of screw/nut system: $n \times Dn \leq 90000$ (n = revolution/minutes Dn = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
06	40	40	2	68	95	82	4x8,5	-	63	82,5	116	22	81	16	-	13	-	3211	5549	-	8x1 061
07																					
08																					
09																					
10																					



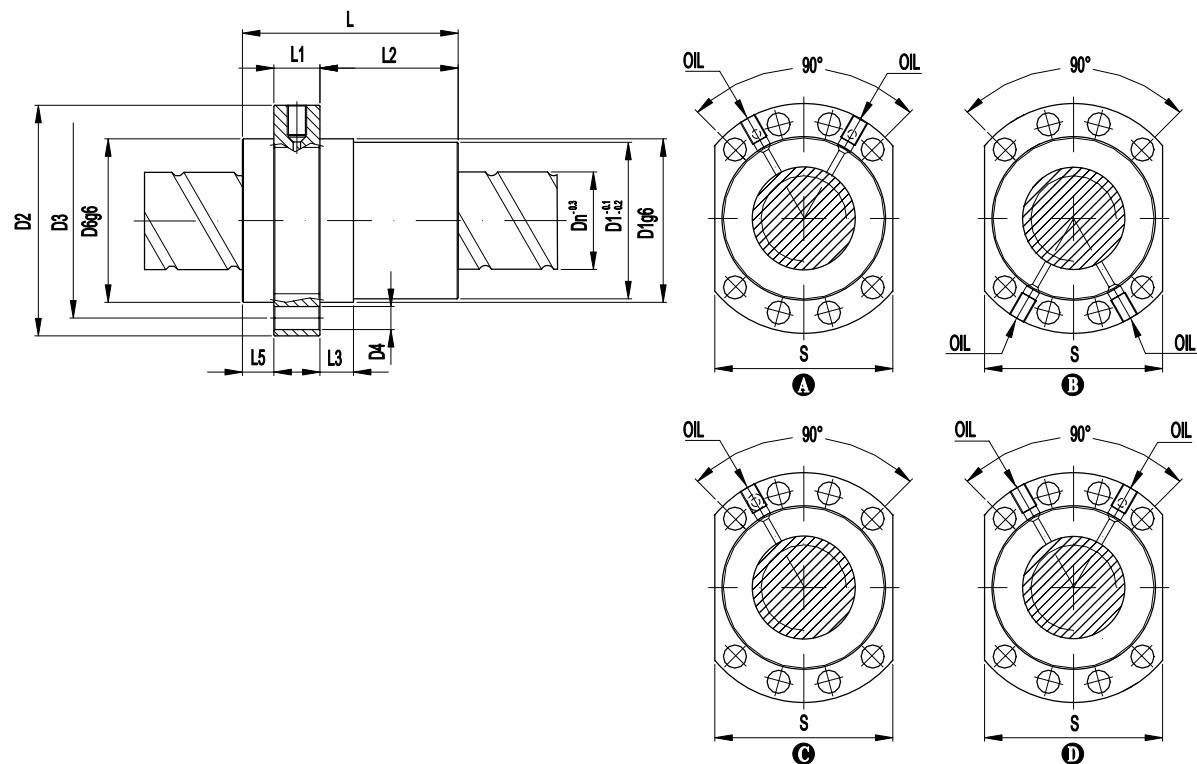
Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
01	A	40	20	3	68	95	82	6x9	-	-	90	103	22	40,5	-	-	-	4648	8324	-	8x1 065
02	B	40	40	2	68	95	82	6x9	-	-	90	116	22	47	-	-	-	3211	5549	-	8x1 066
03																					
04	B	50	40	2	78	112	93	6x9	-	-	107	116	22	47	-	-	-	3594	6973	-	8x1 067
05																					



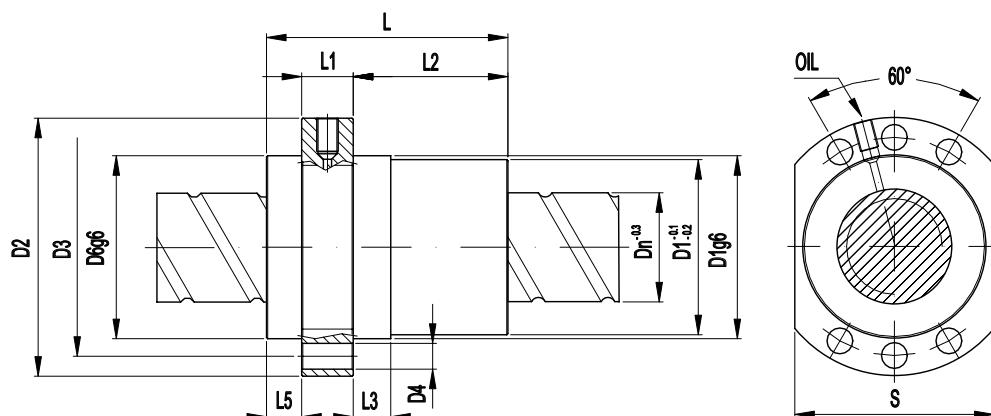
Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
06		40	20	3	68	95	82	5x9	-	-	82,5	103	22	40,5	16	-	-	4648	8324	-	8x1 068
07																					
08																					
09																					
10																					


 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil		
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
01	A	40	10	4	63	93	78	8x9	-	62	70	99,5	14	79,5	16	-	6	-	5985	11099	-	8x1 069
20	C ¹¹	40	20	3	63	93	78	8x9	-	63	71	105	19	79	16	-	7	-	4648	8324	-	8x1 310
02	B	40	20	3	68	95	78	8x9	-	63	70	105	22	68	16	-	15	-	4648	8324	-	8x1 070
04	C	50	5	6	75	110	93	8x11	-	75	85	75	16	52	16	-	7	-	4107	11536	-	8x1 217
05	D ¹⁴	50	10	4	75	110	93	8x11	-	75	85	103,5	16	80,5	16	-	7	-	6640	13946	-	8x1 075
21	D ¹⁴	50	10	6	75	110	93	8x11	-	75	85	127	16	104	16	-	7	-	9411	20919	-	8x1 305
06	A ¹¹	50	20	3	75	110	93	8x11	-	75	85	103	22	66	16	-	15	-	5166	10459	-	8x1 281
07	A ¹¹	50	20	3	78	110	93	8x11	-	75	85	103	22	66	16	-	15	-	5166	10459	-	8x1 071
08	¹¹	50	20	4	78	110	93	8x11	-	75	85	126	22	89	16	-	15	-	6888	13945	-	8x1 076
09	A ¹¹	50	20	4	75	110	93	8x11	-	75	85	126	22	89	16	-	15	-	6888	13945	-	8x1 301
10	A ¹¹	50	40	2	78	110	93	8x11	-	75	85	116	22	79	16	-	15	-	3594	6973	-	8x1 072
22	D ¹⁵	63	10	6	90	125	108	8x11	-	90	95	126	18	101	16	-	7	-	10396	26468	-	8x1 325
26	D ¹¹	63	10	8	90	125	108	8x11	-	90	95	152	18	127	16	-	7	-	13861	35290	-	8x1 504
12	A ¹¹	63	20	3	90	125	108	8x11	-	90	100	103	22	66	16	-	15	-	5714	13234	-	8x1 073
23	D ¹¹	63	20	4	90	125	108	8x11	-	90	100	126	22	89	16	-	15	-	7618	17645	-	8x1 327
24	A ¹¹	63	20	5	90	125	108	8x11	-	90	100	148	22	111	16	-	15	-	9523	22056	-	8x1 329
27																						

(11) - WITHOUT under flange oil hole (14) - Oil hole under flange ø3 (15) - Oil hole under flange ø4



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	L _d	L _s	

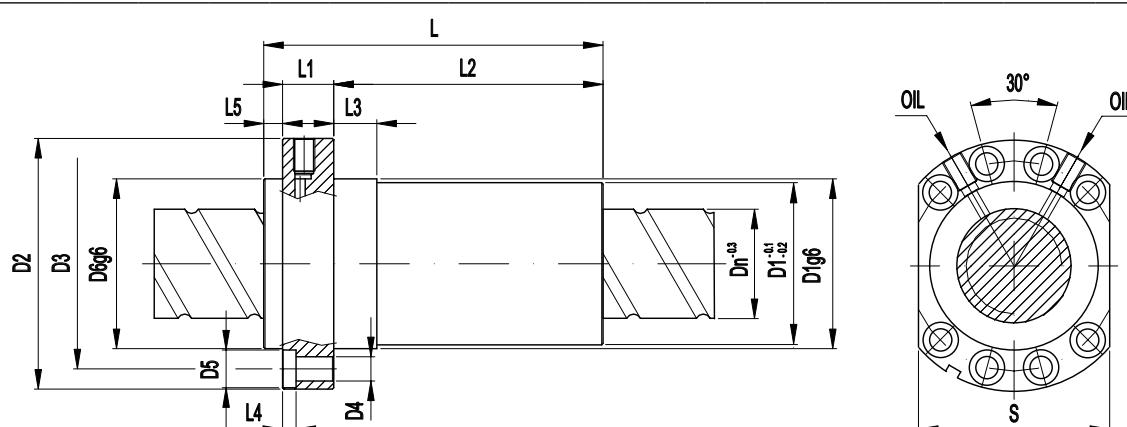
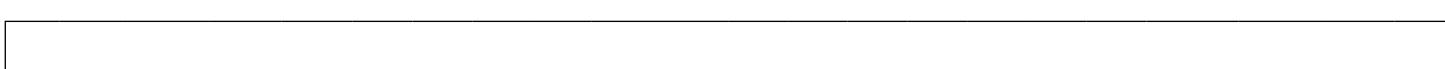
01 40 20 3 68 95 80 6x9 - 63 70 105 22 68 16 - 15 - 4648 8324 - 8x1 077

02

03

04

05



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	L _d	L _s	

06 40 20 4 63 93 78 8x9 14 63 71 126 19 100 16 5 7 - 6197 11099 - 8x1 078

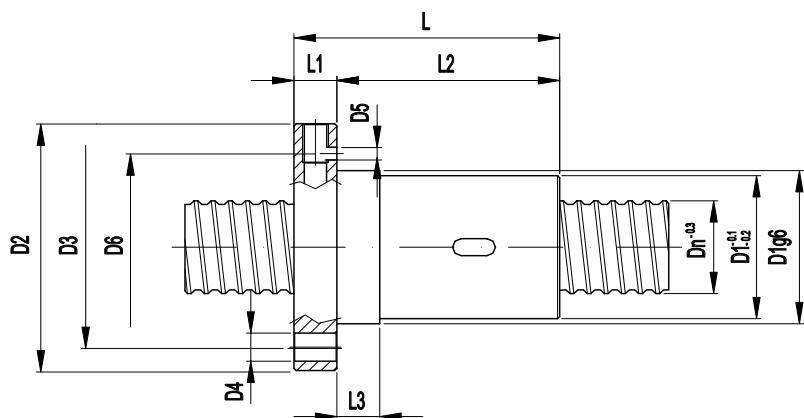
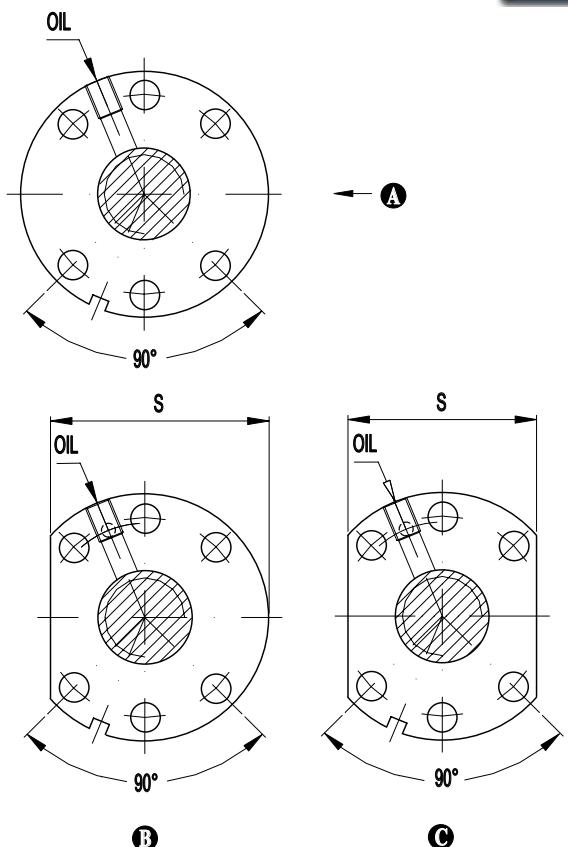
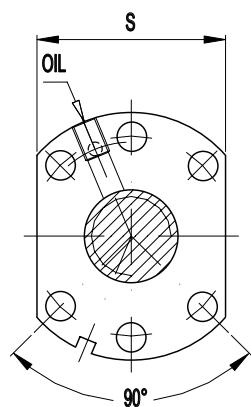
07

08

09

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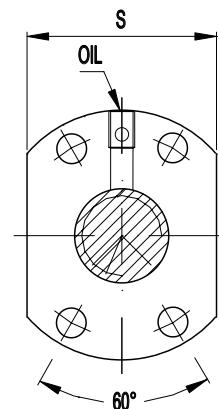
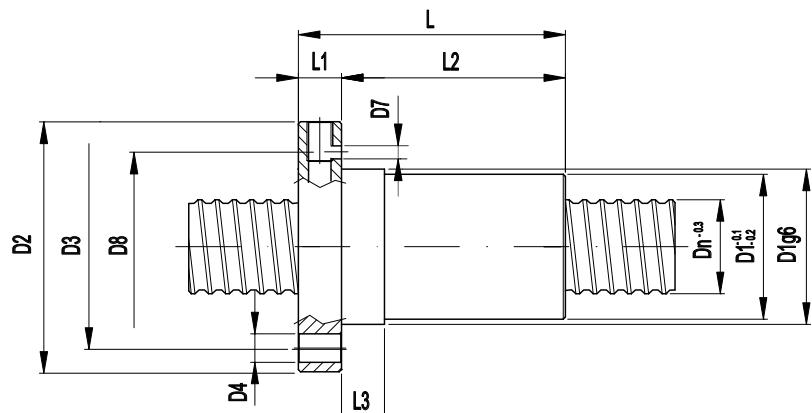



B

C

 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil		
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
01	B ³⁶	20	5	3+3	36	58	47	6x6,6	3	44	51	62	10	52	10	-	-	-	1508	2239	78	M6 137
02	A ¹¹	20	5	3+3	36	58	47	6x6,6	-	-	-	62	10	52	10	-	-	-	1508	2239	78	M6 138
03	C ³⁶	20	5	3+3	36	58	47	6x6,6	3	44	44	62	10	52	10	-	-	-	1508	2239	78	M6 139
04	A ¹¹	20	5	3+3	36	58	47	6x6,6	-	-	-	67	15	52	10	-	-	-	1508	2239	78	M6 140
05																						
06																						
07																						
08																						
09																						
10																						
11																						
12																						
13																						
14																						
15																						

(11) - WITHOUT under flange oil hole (36) - Oil hole under flange Ø3 interasse Ø44



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D7	D8		L	L1	L2	L3	L4	L5	L6	Ld	Ls	

01 20 5 3+3 33 57 45 4X6,6 4 45 37 62 10 52 10 - - - 1508 2239 78 M6 143

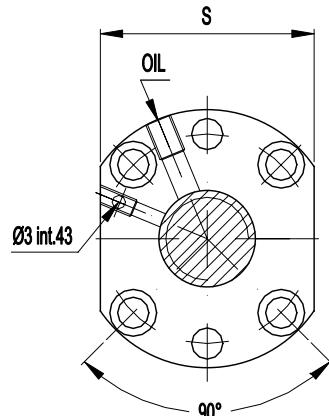
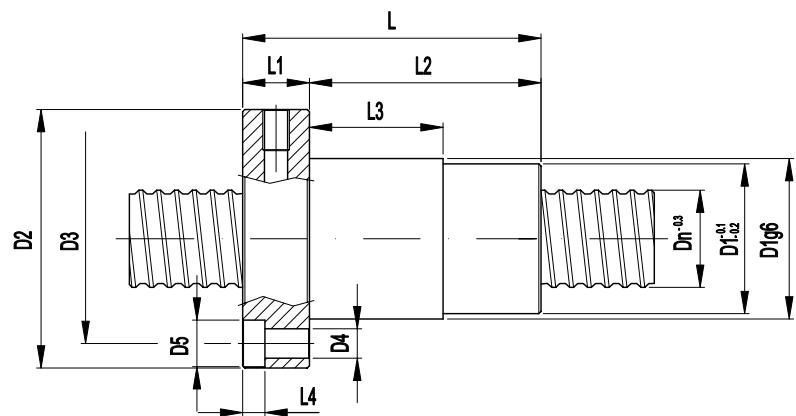
02

03

04

05

[Redacted]



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	

06 20 5 3+3 36 58 47 6x7 4x10,5 - 48 67 15 52 30 5 - - 1508 2239 78 M6 144

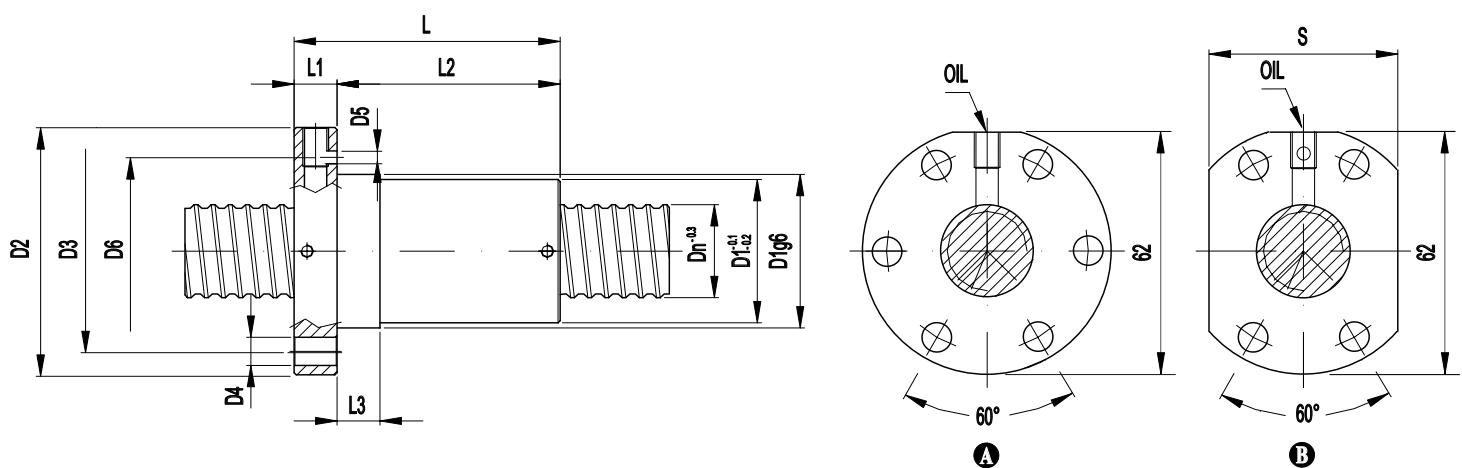
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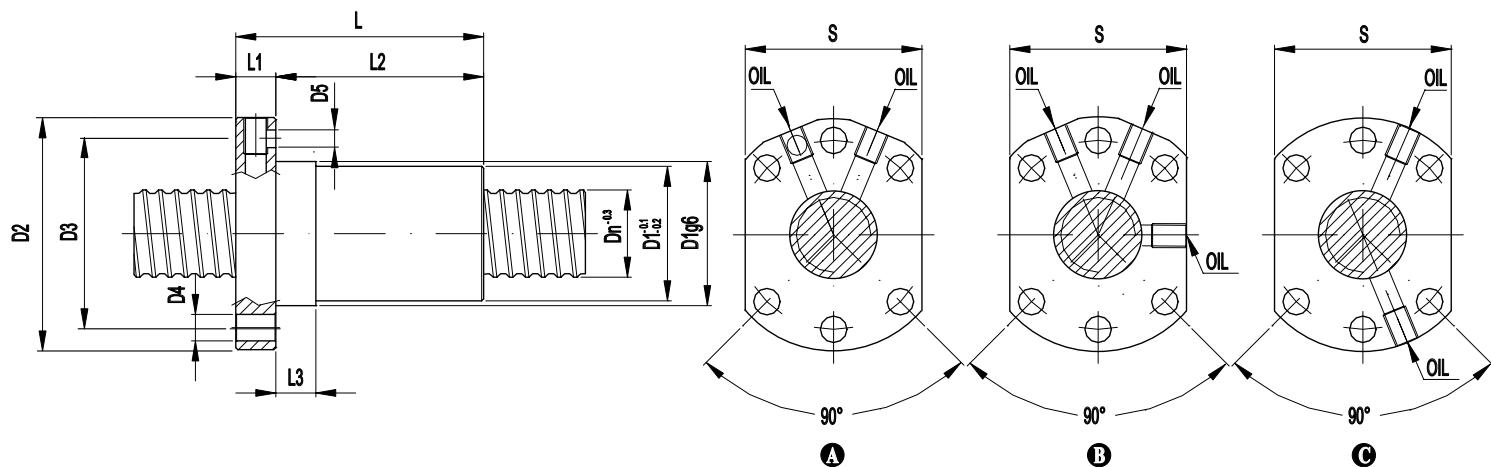
09

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[Redacted]


 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

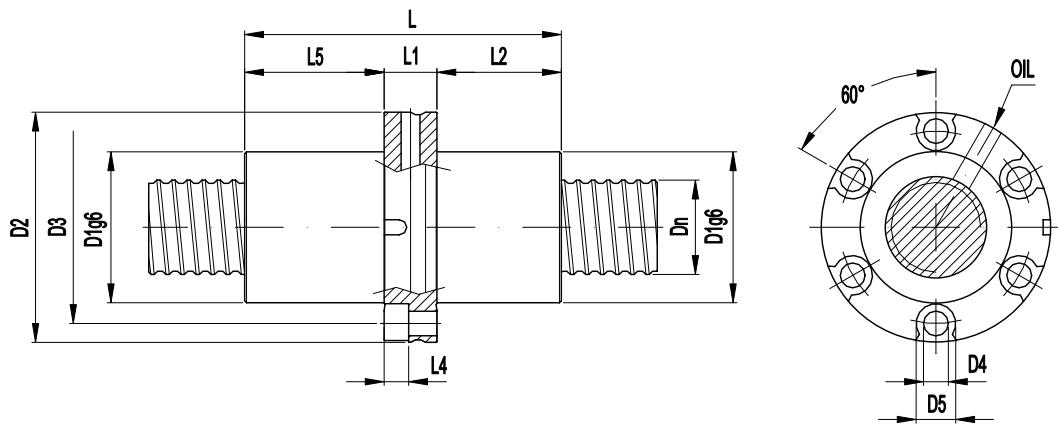
N O T E	mm	mm	N. Circ. balls	DIAMETER mm					S mm	LENGTH mm							LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
01	A	25	5	3+3	38	63	50	6x6,6	-	-	-	62	10	52	16	-	-	1684	2827	98	M6 141
02	B	25	5	3+3	38	63	50	4x6,6	3	50	42	62	10	52	16	-	-	1684	2827	98	M6 142
03																					
04	A	25	5	4+4	38	63	50	6x6,6	-	-	-	74	10	64	16	-	-	2245	3769	118	M6 653
05																					
06																					
07																					
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Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd Dan/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
06	A ¹	25	5	3+3	40	62	51	6x6,6	-	4	48	62	10	52	10	-	-	1684	2827	98	M6 148
07	A ¹	25	5	4+4	40	62	51	6x6,6	-	4	48	74	10	64	10	-	-	2245	3769	118	M6 253
08	B ¹¹	32	5	4+4	50	80	65	6x9	-	-	62	79	12	67	10	-	-	2412	4868	148	M6 149
09	C	32	6	3+3	50	80	65	6x9	-	-	62	72	12	60	16	-	-	1883	3651	80	M6 150
10																					
11																					
12																					
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(¹) - Available also with left hand thread (¹¹) - WITHOUT under flange oil hole


 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	

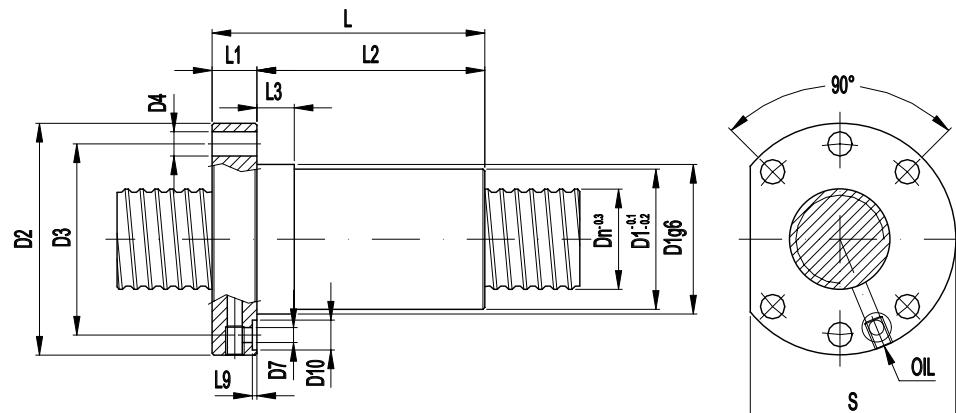
01 25 5 3+3 40 61 51 6x6,6 10,5 - - 84 14 33 - 6,5 37 - 1684 2827 98 Ø5 246

02

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04

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 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D7	D10		L	L1	L2	L3	L4	L5	L9	Ld	Ls	

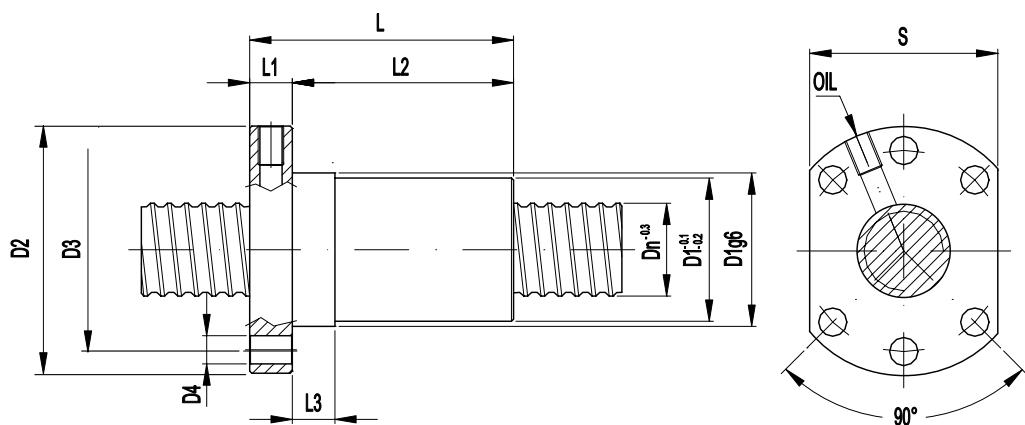
06 25 6 3+3 40 62 51 6x6,5 4 8 - 73 12 61 - - - 1684 2827 98 M5 147

07

08

09

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N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	

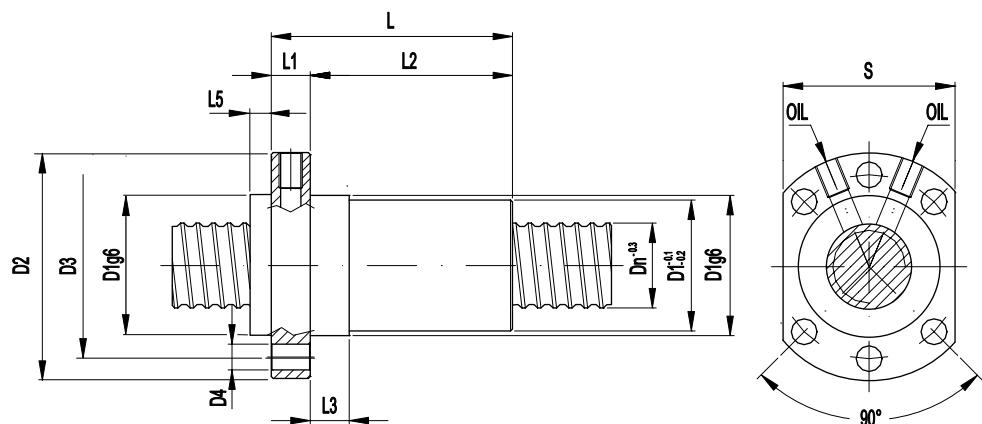
01	32	5	4+4	50	69	59	6x6,6	-	-	62	79	12	67	10	-	-	-	2412	4868	148	M6 254
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02

04

05

06



03	15	32	10	3+3	50	80	65	6x9	-	-	62	91	14	71	16	-	6	-	1879	3651	116	M6 278
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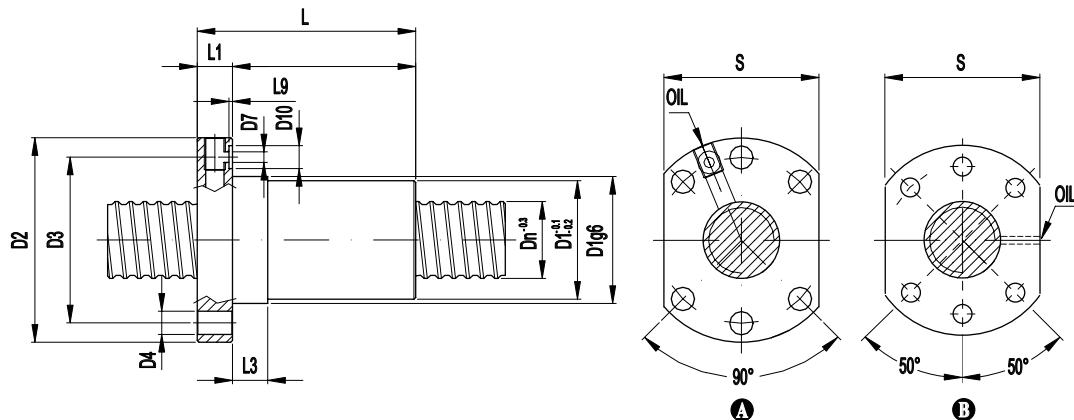
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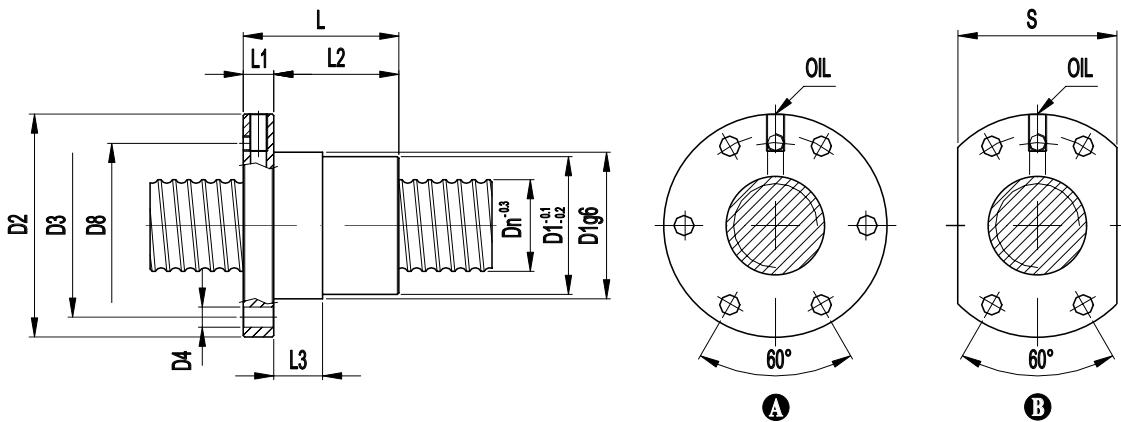
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10

(¹⁵) - Oil hole under flange ø4


 Limiting speed of screw/nut system: $n \times Dn \leq 90000$ (n = revolution/minutes Dn = Nominal diameter)

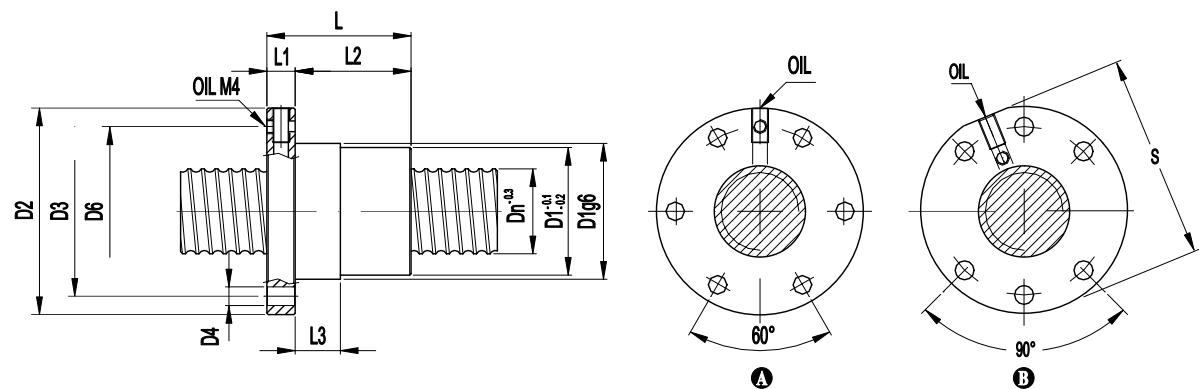
N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil		
				D1g6	D2	D3	D4	D7	D10		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
01	A	32	6	4+4	50	80	65	6x9	4	9	62	87	12	75	16	-	-	1,3	2410	4868	148	M6 151
02	B	32	6	4+4	48	72,8	58	6x6,6	-	-	60	90	15	75	15	-	-	-	2410	4868	148	Ø3 407
03																						
04																						
05																						


 Limiting speed of screw/nut system: $n \times Dn \leq 90000$ (n = revolution/minutes Dn = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil		
				D1g6	D2	D3	D4	D5	D8		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
06	A ¹²	32	5	3+3	45	69	58	6x6,6	-	-	62	10	52	16	-	-	-	1882	3650	118	M6 218	
07																						
08	A	32	5	4+4	48	73	60	6x6,6	-	55	-	79	12	67	16	-	-	-	2412	4868	148	M6 153
09	B	32	5	4+4	48	73	60	4x6,6	-	55	52	79	12	67	16	-	-	-	2412	4868	148	M6 219
10	B ^{12/15}	32	10	3+3	50	80	65	4x8,7	-	65	54	85	14	71	16	-	-	-	1879	3681	116	M6 279

(12) - WITHOUT oil hole over the flange

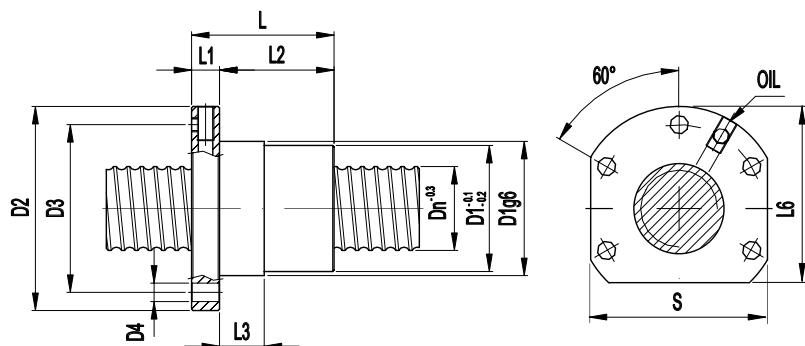
(15) - Oil hole under flange Ø4



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
01	A	32	5	4+4	48	73	58	6x6,6	-	58	-	79	12	67	15	-	-	2412	4868	148	M6 221
02	B ¹⁸	32	5	3+3	50	80	65	6x9	-	50	79	64	12	52	10	-	-	1882	3650	118	M6 245
03																					
04																					
05																					

(¹⁸) - Oil hole over the flange M4, interaxis ø50m, non through hole

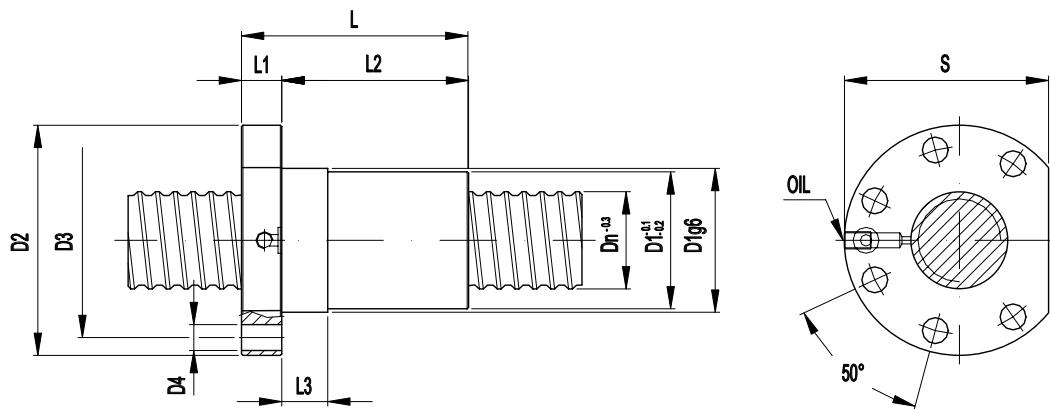


Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil		
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
06		32	5	4+4	48	73	60	5x6,6	-	-	65	79	12	67	16	-	-	63	2412	4868	148	M6 220
07																						
08																						
09																						
10																						

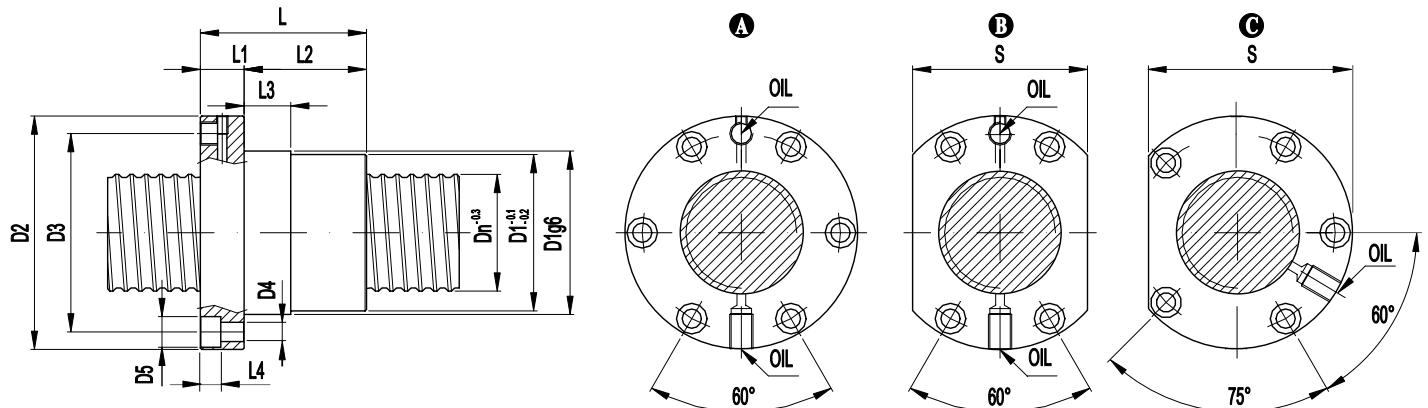
(¹²) - WITHOUT oil hole over the flange

(¹⁵) - Oil hole under flange ø4


 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

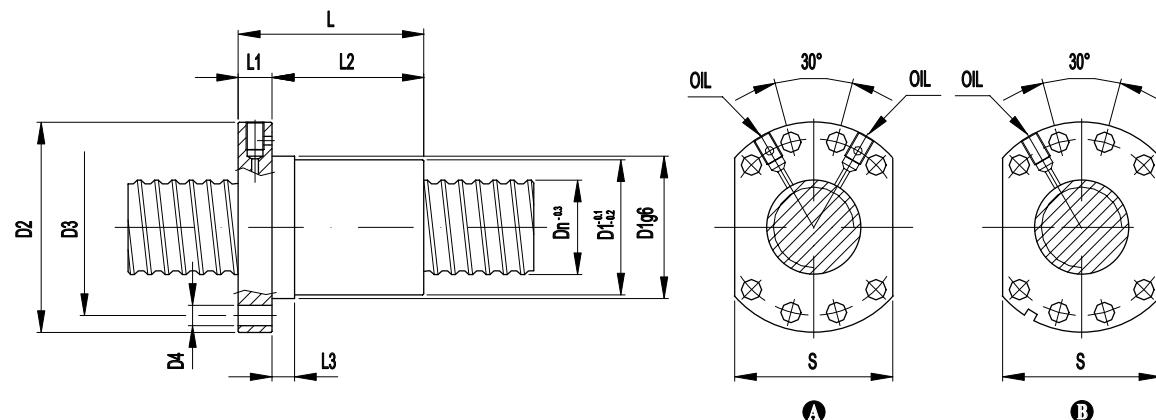
N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls		
01	7	32	6	3+3	50	80	65	6x9	-	-	71	74	14	60	16	-	-	1883	3651	80	M6 152
02																					
03																					
04																					
05																					

(7) - Ø4 Oil hole under flange - Milling Ø9 length 1,4mm


 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil		
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
06	C	32	5	4+4	50	78	63	5x6,6	10,5	-	69	82	15	67	16	6	-	2412	4868	148	8x1 222	
07	A ^{1/13}	40	5	4+4	56	80	68	6x6,6	10,5	-	-	82	15	67	16	7	-	-	2649	6123	177	8x1 154
08	B ^{1/13}	40	5	4+4	56	80	68	4x6,6	10,5	-	60	82	15	67	16	7	-	-	2649	6123	177	8x1 155
09	A ¹	50	5	4+4	68	98	82	6x9	13,5	-	-	82	15	67	16	8,5	-	-	2898	7690	217	8x1 156
10	B	50	5	4+4	68	98	82	4x9	13,5	-	80	82	15	67	16	8,5	-	-	2898	7690	217	8x1 230

(1) - Available also with left hand thread (13) - Oil hole over the flange with interaxis Ø63



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	

01 **A**⁽²¹⁾ 40 5 4+4 63 93 78 8x9 - - 70 82 15 67 10 - - - 2649 6123 177 8x1 580

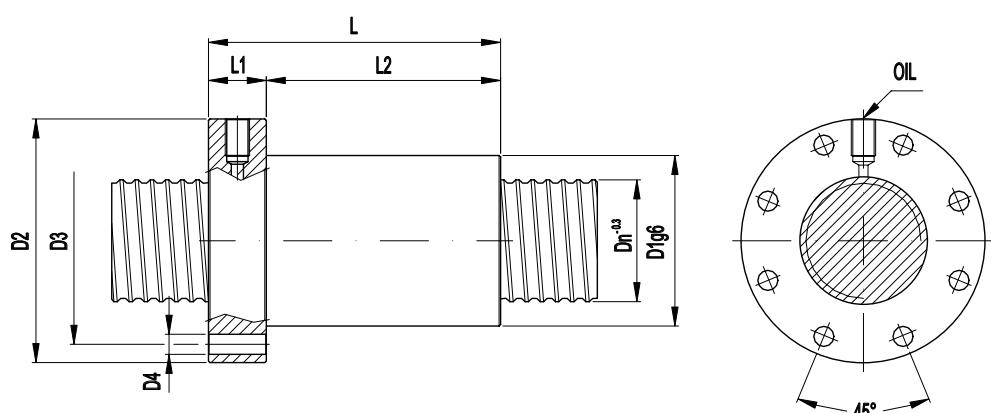
02

03 **B** 40 12 4+4 63 93 78 8X9 - - 70 152,5 20 132,5 16 - - - 5980 11099 182 8x1 229

04

05

(⁽²¹⁾) - Oil hole under flange $\varnothing 4$ - interaxis $\varnothing 78$



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	

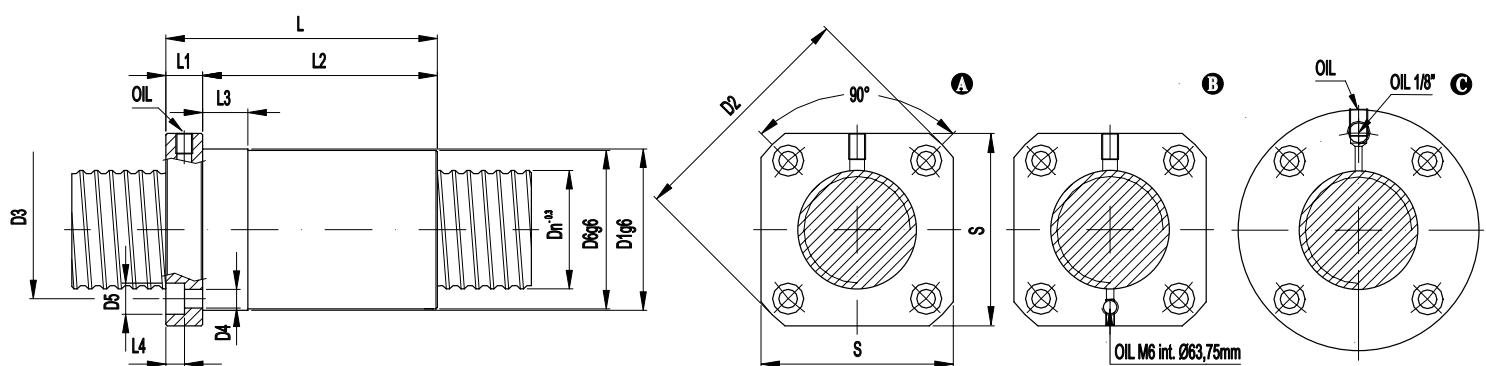
06 40 6 4+4 56 79,5 68 8x6,6 - - - 96 19 77 - - - 2649 6123 168 8x1 201

07

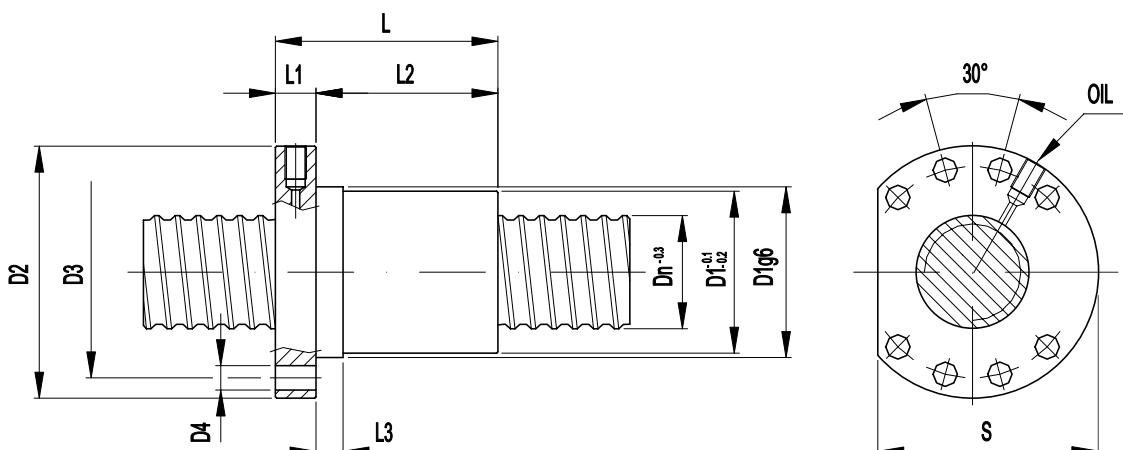
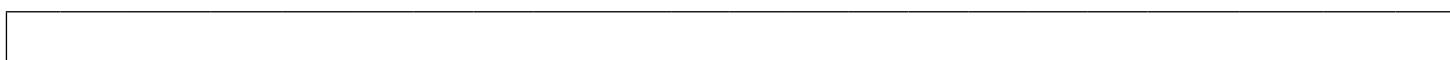
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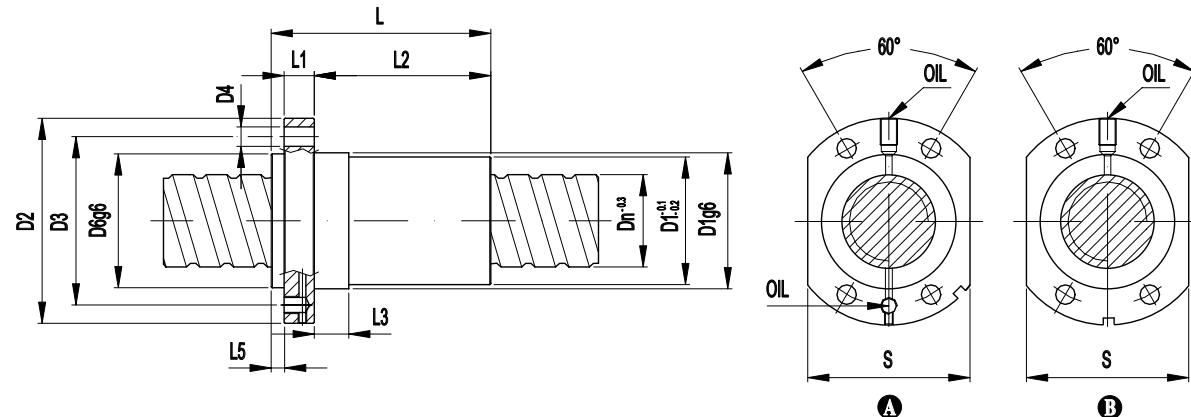

 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil		
				D1g6	D2	D3	D4	D5	D6g6		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
01	A	40	6	4+4	57	85	69	4x6,6	11	56	68	96	13	83	16	6,6	-	-	2649	6123	168	M6 224
02																						
03	B	40	10	3+3	62	98	77	4x10,5	16,5	-	75,5	126	26	100	-	11	-	-	4673	8324	148	8x1 412
04	C	40	10	4+4	62	98	77	4x10,5	16,5	-	-	145	26	119	-	11	-	-	5985	11099	187	8x1 227
05																						


 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil		
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
06		40	6	4+4	63	90	78	8x9	-	-	79	96	16	80	16	-	-	-	2649	6123	168	1/8 GAS 225
07																						
08																						
09																						





Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	

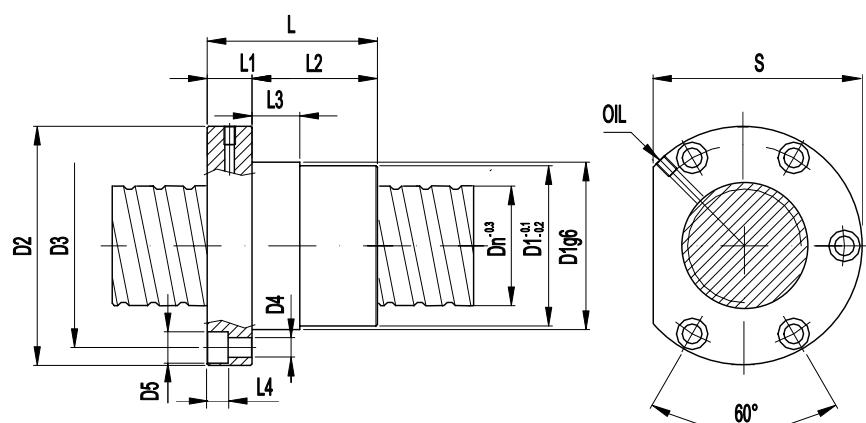
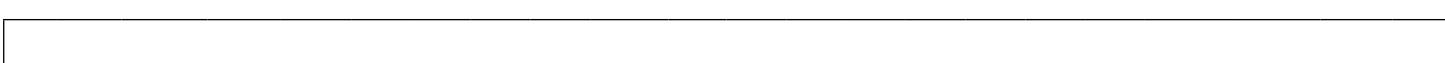
01 **A** 40 10 3+3 63 95 78 4x9 - 62 75 120 14 100 16 - 6 - 4673 8324 148 8x1 165

02

03 **B** 50 10 4+4 72 110 90 4x11 - 72 80 151,5 16 128,5 16 - 7 - 6640 13946 236 8x1 232

04

05



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	

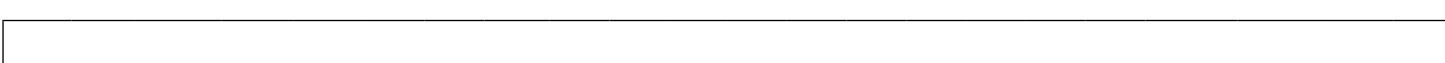
06 40 10 4+4 63 98 78 5x8,5 13,5 - 88,5 137 18 119 15 8 - - 5985 11099 187 M5 228

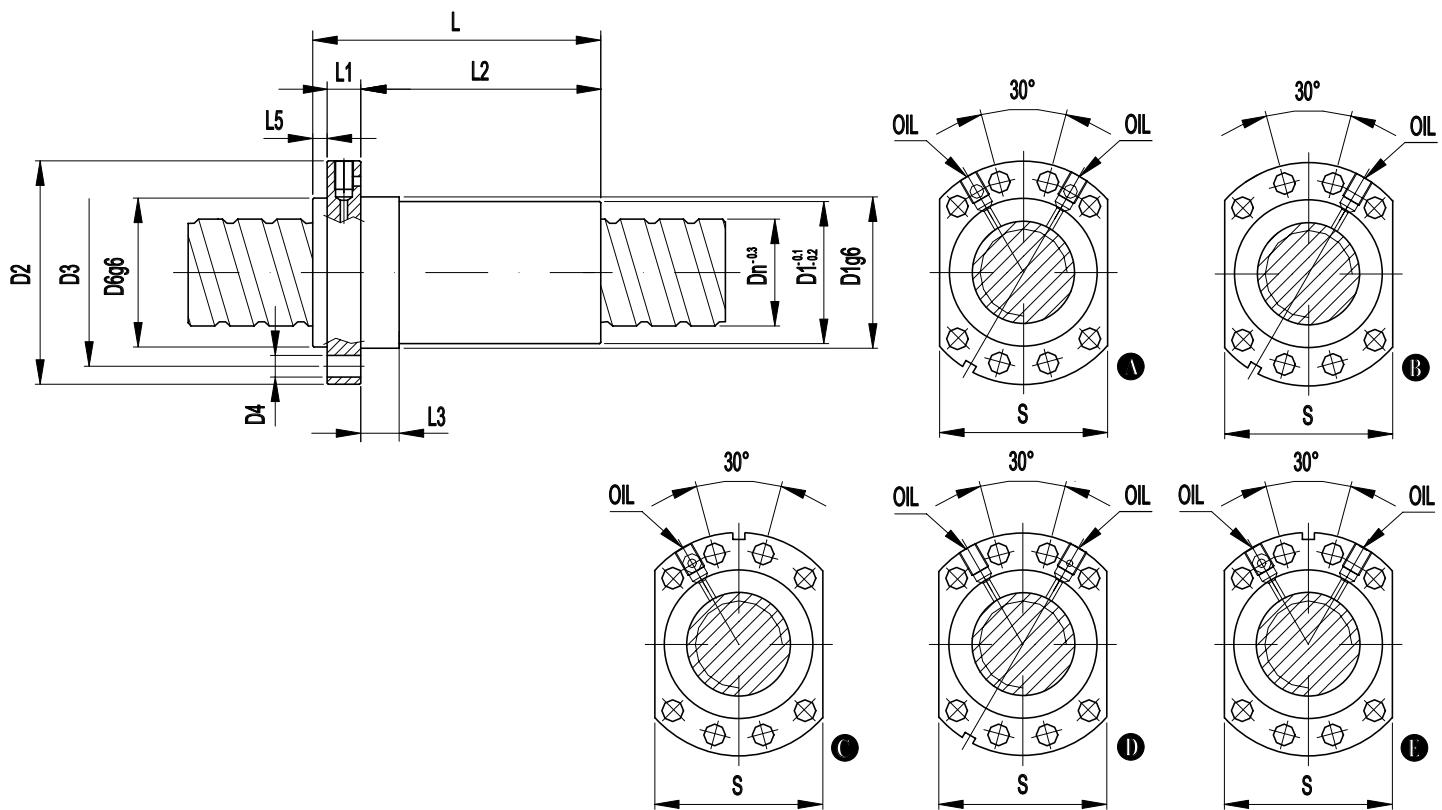
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 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

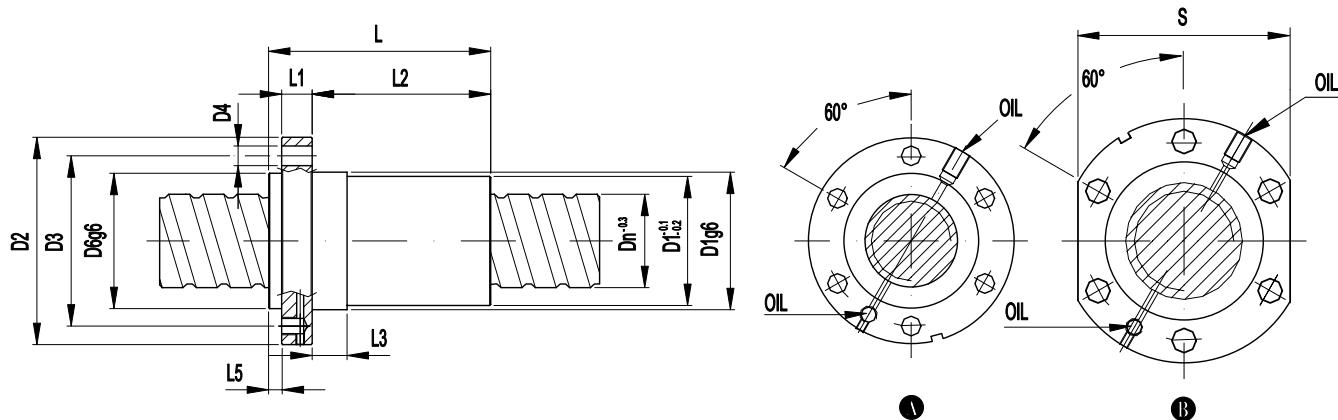
N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil		
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
26	A ¹⁵	40	5	5+5	63	93	78	8x9	-	63	70	97	15	75	10	-	7	-	3311	7563	221	8x1 516
25	A ¹⁵	40	5	6+6	63	93	78	8x9	-	63	70	109	15	87	10	-	7	-	3775	9184	265	8x1 614
01	A ¹⁵	40	10	3+3	63	93	78	8x9	-	63	70	120	14	100	16	-	6	-	4673	8324	148	8x1 158
02	A ¹⁵	40	10	4+4	63	93	78	8x9	-	62	70	139	14	119	16	-	6	-	5985	11099	187	8x1 159
03																						
04	C ¹⁰	50	5	4+4	75	110	93	8x11	-	75	85	90	16	67	21	-	7	-	2898	7690	217	8x1 160
22	E ¹⁰	50	5	5+5	75	110	93	8x11	-	75	85	97	16	74	21	-	7	-	3355	9427	268	8x1 308
23	E ¹⁰	50	5	6+6	75	110	93	8x11	-	75	85	109	16	86	21	-	7	-	4107	11536	315	8x1 416
24																						
05	D ¹⁴	50	10	4+4	75	110	93	8x11	-	75	85	151,5	16	128,5	16	-	7	-	6640	13946	236	8x1 161
07	D ¹¹	63	10	4+4	90	125	108	8x11	-	90	95	152	18	127	16	-	7	-	7335	17645	284	8x1 162
27	B	63	10	5+5	90	125	108	8x11	-	90	95	172	18	147	16	-	7	-	8887	22057	353	8x1 515
28																						

(10) - Oil hole under flange ø3 interasse ø93 - Lamatura ø8 prof. 1,1

(14) - Oil hole under flange ø3

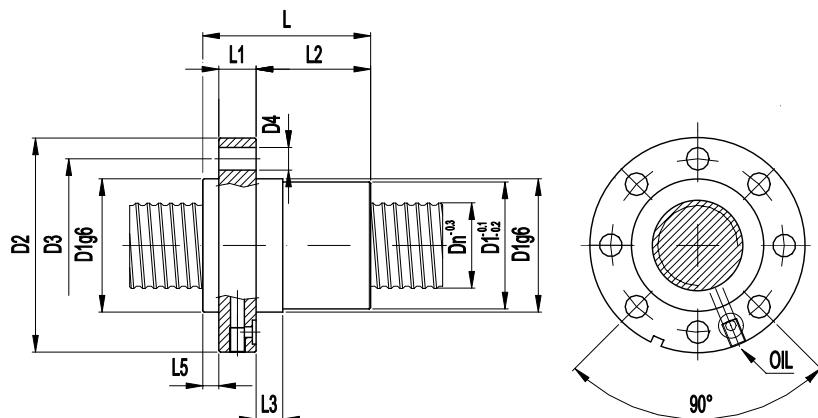
(11) - WITHOUT under flange oil hole

(15) - Oil hole under flange ø4



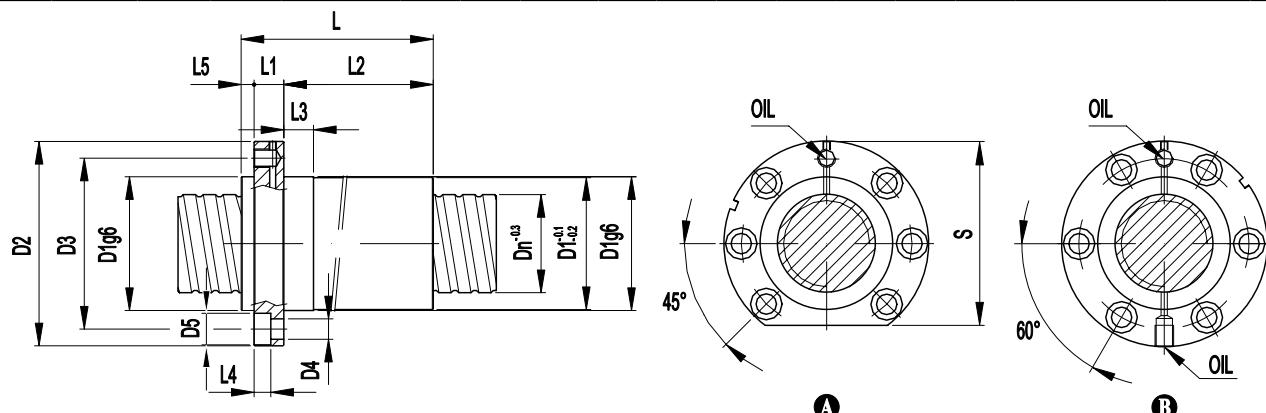
Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil		
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
06	A	40	10	3+3	63	95	78	6x9	-	62	-	120	14	100	16	-	6	-	4673	8324	148	8x1 163
07	A	40	10	4+4	63	95	78	6x9	-	62	-	139	14	119	16	-	6	-	5985	11099	487	8x1 164
08																						
09	B	50	10	4+4	72	110	90	6x11	-	72	96	152	16	129	16	-	7	-	6640	13946	236	8x1 167
10																						
11																						
12																						
13																						
14																						
15																						
16																						
17																						
18																						

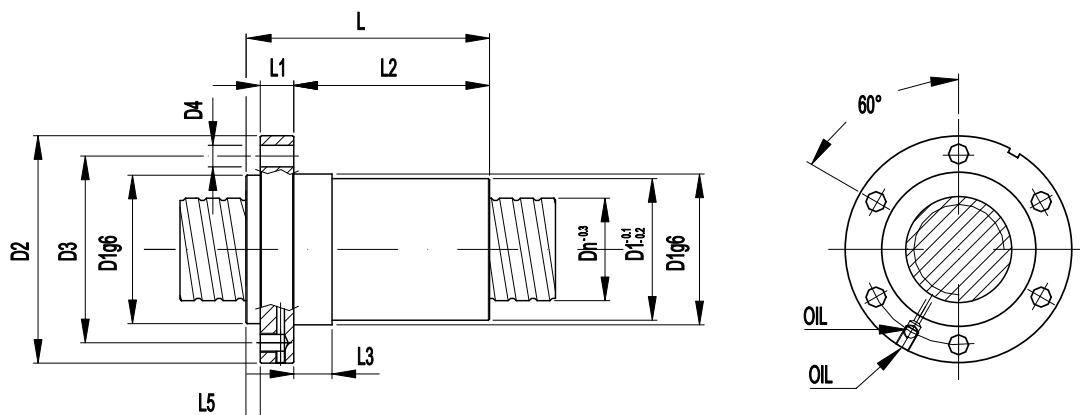

 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	
01	20	50	5	4+4	75	110	93	8x11	-	-	90	16	67	21	-	-	2898	7690	217	8x1 313
02																				
03																				
04																				
05																				

(20) - Milling ø8 H11 length 1,1 Oil hole ø3 with interaxis ø93


 Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil		
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls			
09	(B)	50	5	6+6	68	98	82	6x8,5	13,5	-	-	109	15	87	16	8,5	7	-	4107	11536	315	8x1 453
10																						
06	(A)	50	10	4+4	72	110	92	6x11	17	-	99	151,5	16	128,5	16	9	7	-	6640	13946	236	1/8 GAS 234
07																						
08																						

Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	

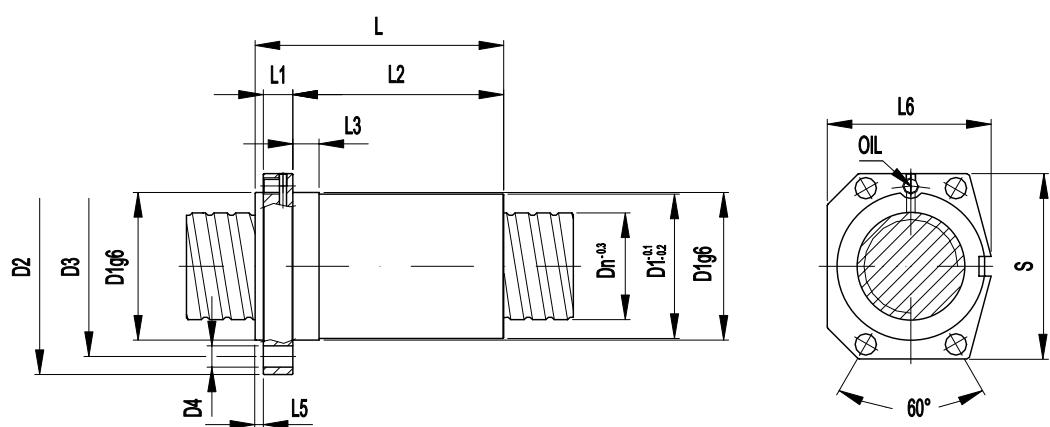
01 63 10 4+4 85 125 105 6x11 - - - 152 16 129 16 - 7 - 7335 17645 284 8x1 231

02

03

04

05

Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L	L1	L2	L3	L4	L5	L6	Ld	Ls	

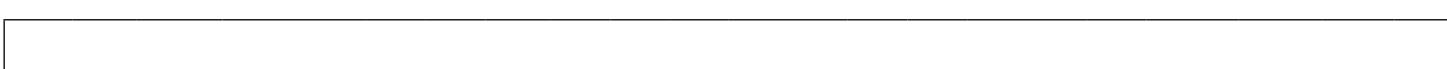
06 63 10 4+4 90 132 110 4x13 - - 113 151,5 18 128,5 16 - 5 100 7335 17645 284 M10 235

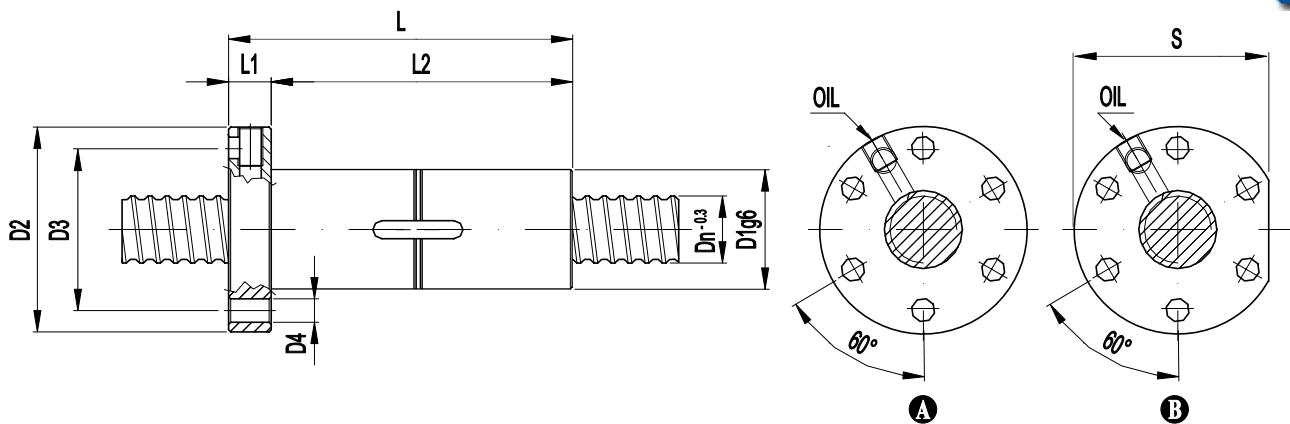
07

08

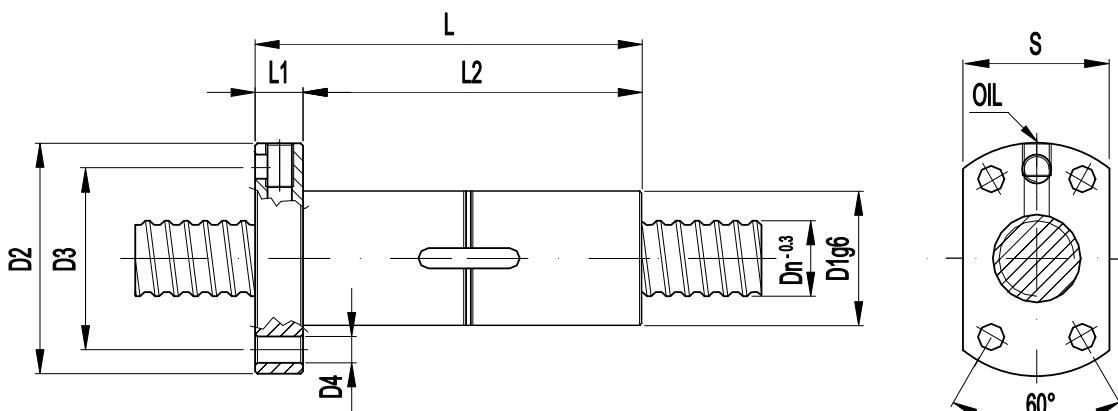
09

10

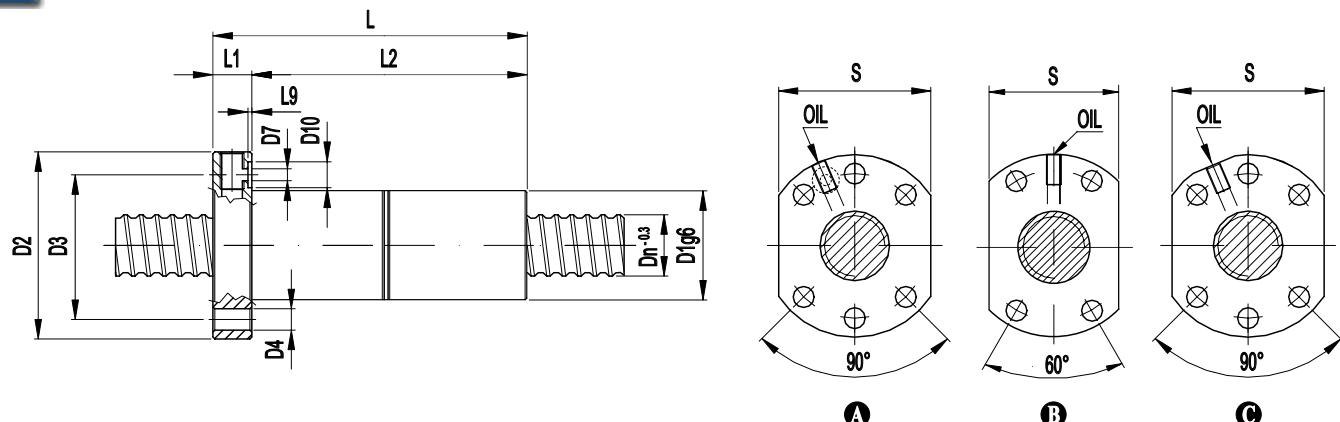



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	D_n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls		
01	A	20	5	3+3	33	57,5	45	6x6,6	-	-	-	80	10	70	-	-	-	1508	2239	78	M6 168
02	B	20	5	3+3	33	57,5	45	6x6,6	-	-	54,5	80	10	70	-	-	-	1508	2239	78	M6 169
03																					
04																					
05																					


Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls		
06		20	5	3+3	33	57,5	45	4x6,6	-	-	37	80	10	70	-	-	-	1508	2239	78	M6 175
07																					
08																					
09																					
10																					

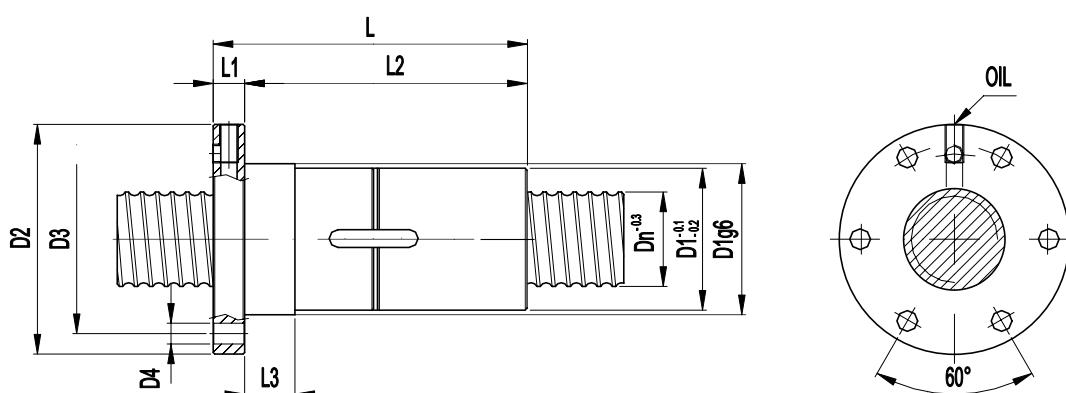


Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	D_n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil		
				D1g6	D2	D3	D4	D7	D10		L ± 1	L1	L2	L3	L4	L5	L9	Ld	Ls			
02	A	25	10	3+3	40	62	51	6x6,6	4	9	48	103	12	91	-	-	-	1,3	1678	2827	88	M6 270
12	A ⁽³²⁾	25	10	3+3	43	62	51	6x6,6	4	-	48	103	10	93	-	-	-	-	1678	2827	88	M6 421
03	B	25	10	3+3	43	65	55	4x6,6	-	-	45	99	14	85	-	-	-	-	1678	2827	88	M6 176
04	B	25	10	3+3	43	65	55	4x6,6	-	-	45	100	14	86	-	-	-	-	1678	2827	88	M6 271
05																						
06	C ⁽¹¹⁾	25	10	4+4	40	62	51	6x6,6	-	-	48	124	12	112	-	-	-	-	2150	3770	110	M6 331
07	B	25	10	4+4	43	65	55	4x6,6	-	-	45	124	14	110	-	-	-	-	2150	3770	110	M6 272
09	B	25	20	2+2	43	65	55	4x6,6	-	-	45	119	14	105	-	-	-	-	1167	1884	71	M6 177

(⁽¹¹⁾) - WITHOUT under flange oil hole

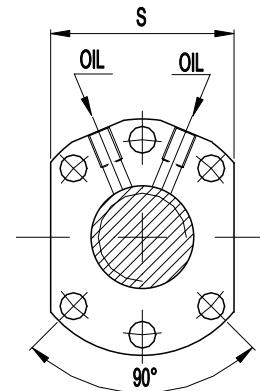
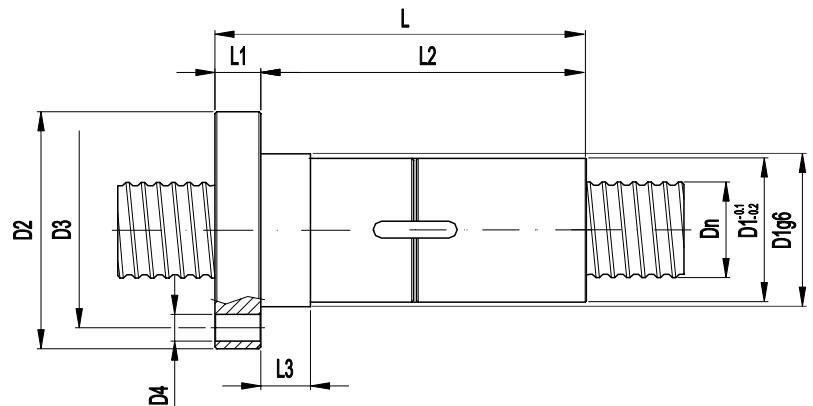
(⁽³²⁾) - Oil hole under the flange WITHOUT MILLING



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L ± 1	L1	L2	L3	L4	L5	L6	Ld	Ls		
10	22	32	5	3+3	48	73	60	6x6,6	-	-	80	10	70	16	-	-	-	1882	3650	118	M6 172
11	22	32	5	4+4	48	73	60	6x6,6	-	-	91	10	81	16	-	-	-	2412	4868	148	M6 173

(⁽²²⁾) - Oil hole over the flange with interaxis Ø55


Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls	

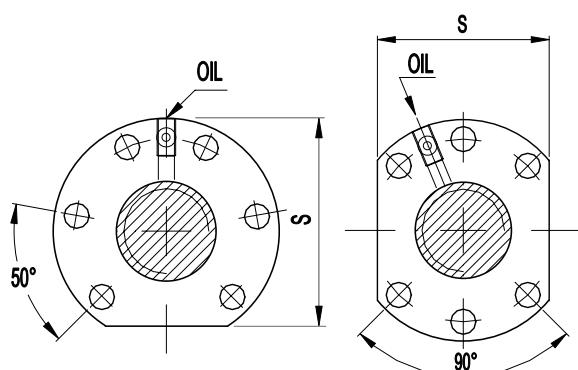
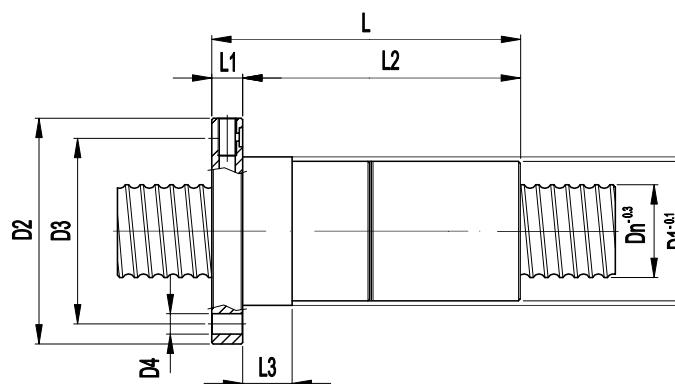
01 32 5 4+4 50 80 65 6x9 - - 62 93 12 71 10 - - - 2412 4868 148 M6 180

02

03

04

05


Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls	

06 A⁷ 32 6 5+5 50 80 65 6x9 - - 71 122 12 110 16 - - - 3015 6085 163 M6 236

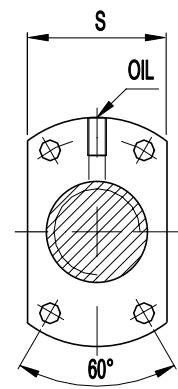
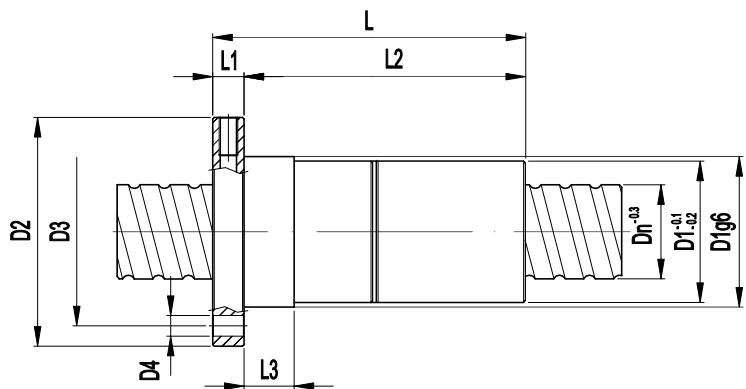
07 B⁷ 32 6 5+5 50 80 65 6x9 - - - 62 122 12 110 16 - - - 3015 6085 163 M6 237

08

09 B¹¹ 32 10 4+4 50 80 65 6x9 - - - 62 124 14 110 16 - - - 2505 4868 155 M6 276

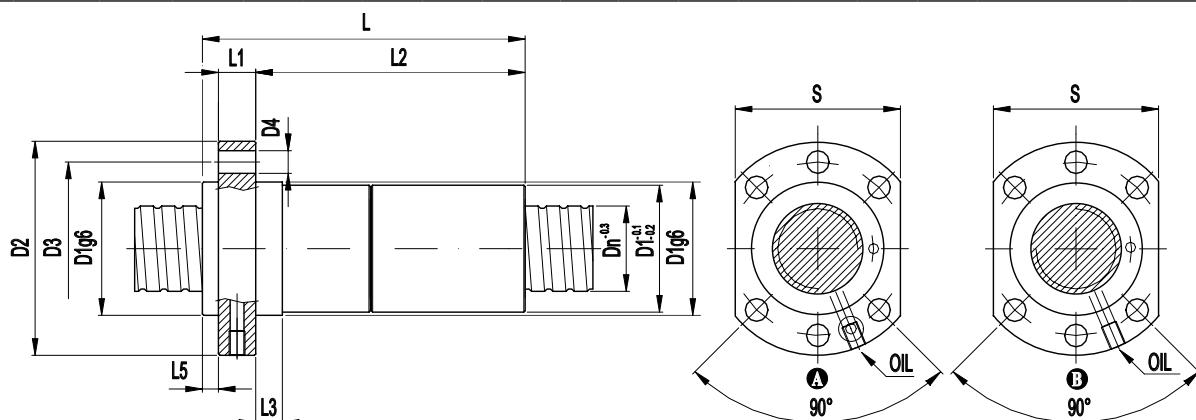
10 A⁷ 32 10 4+4 50 80 65 6x9 - - - 71 124 14 110 16 - - - 2505 4868 155 M6 238

(?) - Oil hole under flange $\varnothing 4$ - milling $\varnothing 9$ length 1,4 (11) - WITHOUT under flange oil hole



Limiting speed of screw/nut system: $n \times Dn \leq 90000$ (n = revolution/minutes Dn = Nominal diameter)

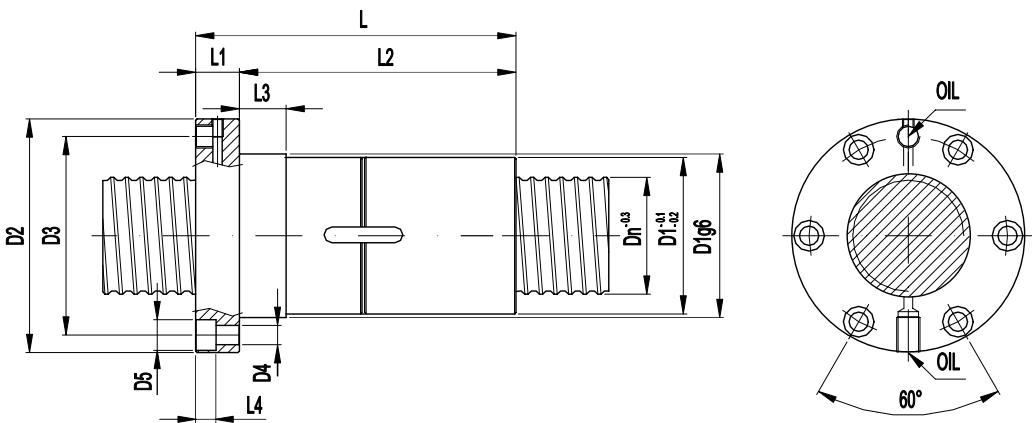
N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L ± 1	L1	L2	L3	L4	L5	L6	Ld	Ls		
01	32	10	3+3	50	80	65	4x8,7	-	-	54	103	14	89	16	-	-	-	1879	3651	116	M6 275
02	32	10	4+4	50	80	65	4x8,7	-	-	54	124	14	110	16	-	-	-	2505	4868	155	M6 277
03	32	20	2+2	50	80	65	4x8,7	-	-	54	119	14	105	16	-	-	-	1314	2434	90	M6 179
04	32	25	2+2	50	80	65	4x8,7	-	-	54	139	14	125	16	-	-	-	1351	2516	92	M6 564
05																					



Limiting speed of screw/nut system: $n \times Dn \leq 90000$ (n = revolution/minutes Dn = Nominal diameter)

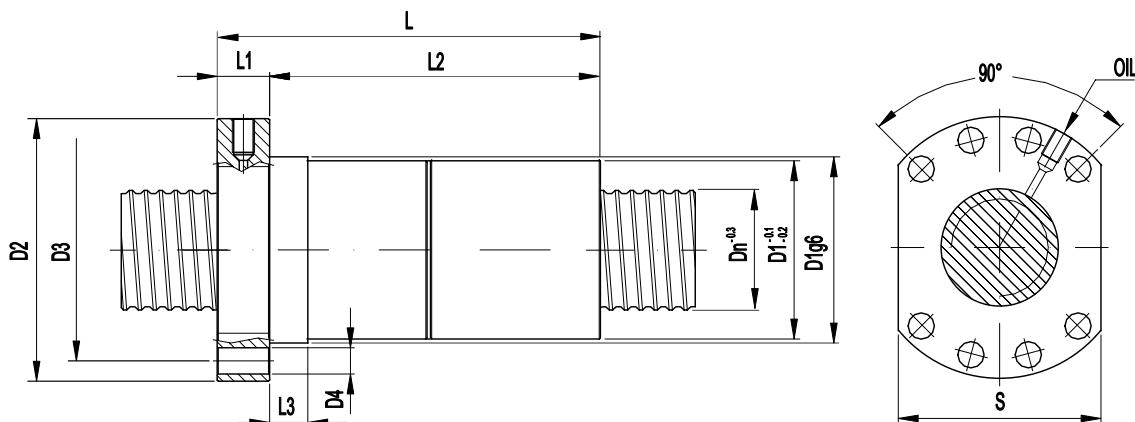
N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L ± 1	L1	L2	L3	L4	L5	L6	Ld	Ls		
06 (B)	32	10	3+3	50	80	65	6x9	-	-	62	109	14	89	10	-	6	-	1879	3651	116	M6 289
07 (B)	32	10	4+4	50	80	65	6x9	-	-	62	130	14	110	16	-	6	-	2505	4868	155	M6 280
08 (B)	32	10	5+5	50	80	65	6x9	-	-	62	154	14	134	16	-	6	-	3130	6085	193	M6 324
09 (A) ⁷	32	12	4+4	50	80	65	6x9	-	-	62	152	14	132	10	-	6	-	2505	4868	155	M6 287
10																					

(?) - Con Oil hole under flange $\varnothing 4$ - milling $\varnothing 9$ length 1,4


Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

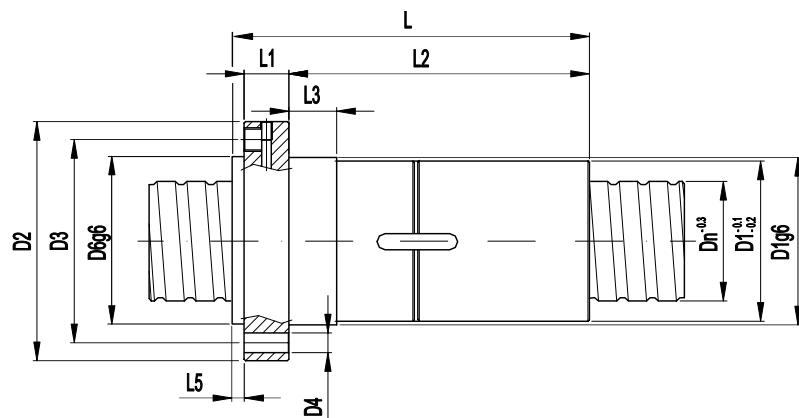
N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls		
01	1	40	5	4+4	56	80	68	6x6,6	10,5	-	-	97	15	82	16	7	-	2649	6123	177	8x1 189
02		40	5	6+6	56	80	68	6x6,6	10,5	-	-	117	15	102	16	7	-	3755	9184	265	8x1 190
03																					
04		50	5	6+6	68	98	82	6x8,5	13,5	-	-	117	15	102	16	8,5	-	4107	11536	315	8x1 191
05																					

(1) - Available also with left hand thread


Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

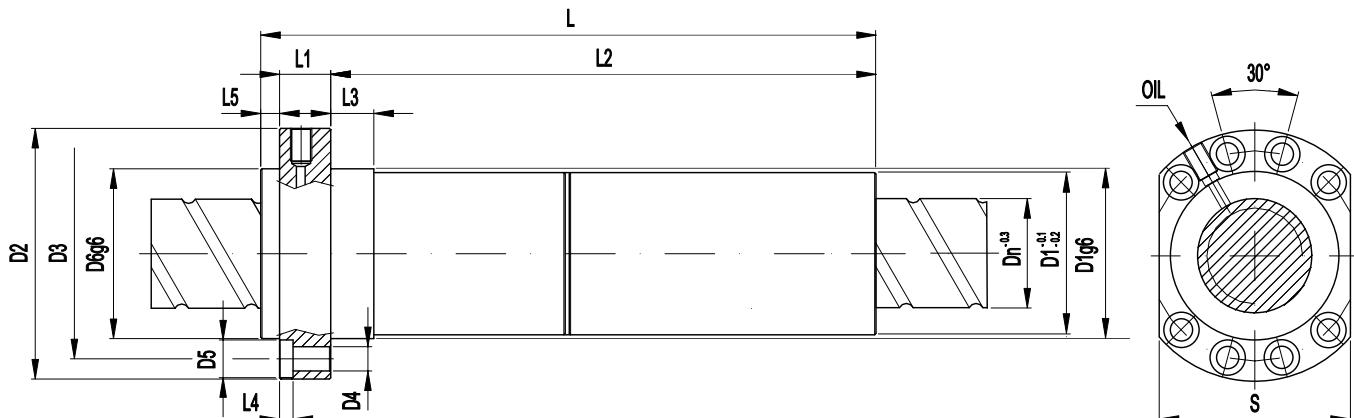
N O T E	Dn mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls		
07		40	6	6+6	63	93	78	8x9	-	-	70	143	15	128	16	-	-	3755	9184	265	8x1 240
08																					
09																					
10																					
11																					

(?) - Oil hole under flange $\varnothing 4$ - milling $\varnothing 9$ length 1,4



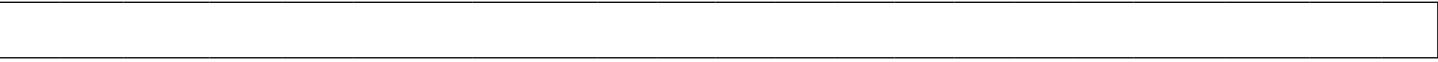
Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

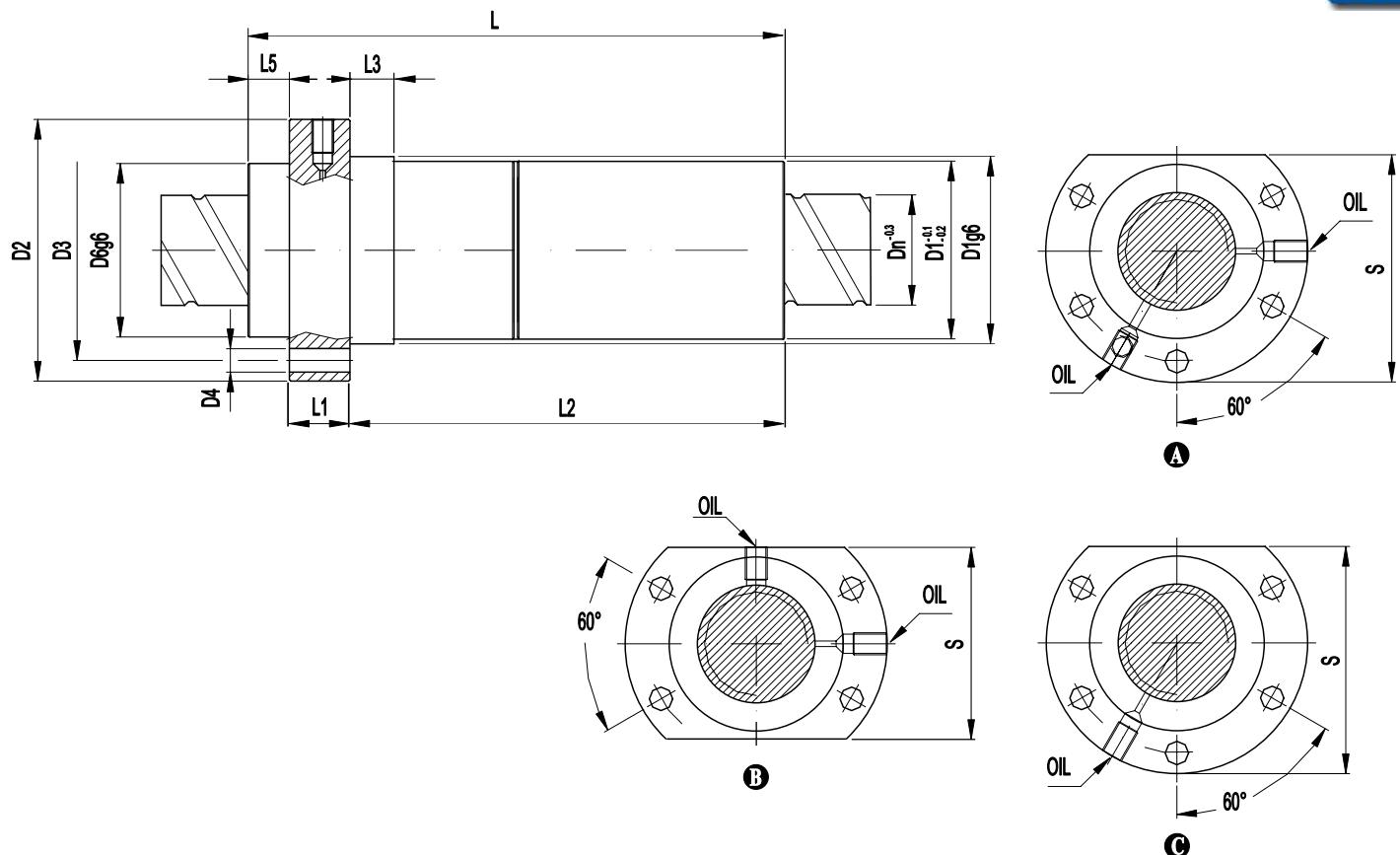
N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls		
01	40	10	3+3	63	95	78	6x9	-	62	-	147	14	127	16	-	6	-	4673	8324	148	8x1 192
02	40	10	4+4	63	95	78	6x9	-	62	-	182	14	162	16	-	6	-	5985	11099	187	8x1 193
03																					
04	50	10	6+6	72	110	90	6x11	-	72	-	245	16	222	16	-	7	-	9411	20919	343	8x1 195
05																					



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls		
07	40	20	3+3	63	93	78	8x9	14	63	71	200	17	176	16	3	7	-	4648	8324	130	8x1 290
08																					
09																					
10																					
11																					

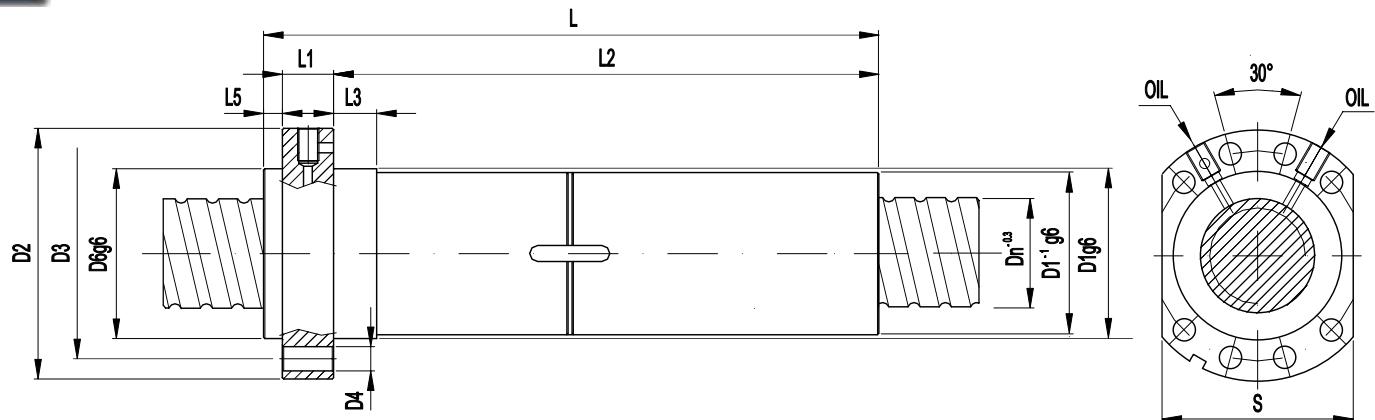




Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm					S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil			
				D1g6	D2	D3	D4	D5		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls				
01	A ¹	40	20	3+3	68	95	80	5x8,5	-	63	82,5	208	22	169	16	-	15	-	4648	8324	130	8x1 291
02	B	40	20	3+3	68	95	80	4x8,5	-	63	70	208	22	169	16	-	15	-	4648	8324	130	8x1 294
03																						
04	A	40	20	3+3	68	95	82	5x8,5	-	63	82,5	208	22	169	16	-	15	-	4648	8324	130	8x1 293
10	B	40	20	3+3	68	95	82	4x8,5	-	63	70	208	22	169	16	-	15	-	4648	8324	130	8x1 295
05																						
07	C ¹	40	40	2+2	68	95	80	5x8,5	-	63	82,5	232	22	197	16	-	13	-	3211	5549	100	8x1 188
08																						
09																						
10																						
11																						
12																						
13																						
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15																						

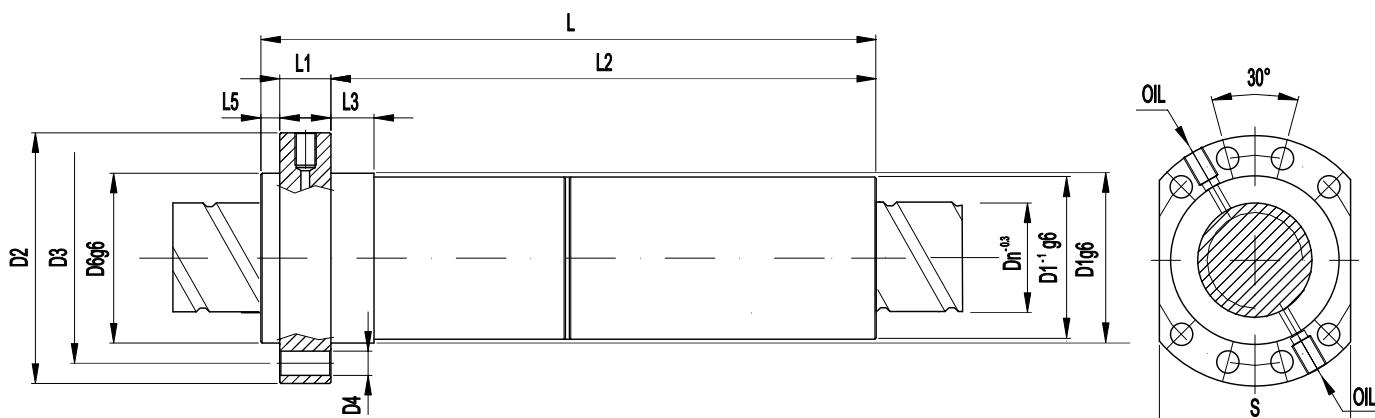
(¹) - Available also with left hand thread



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

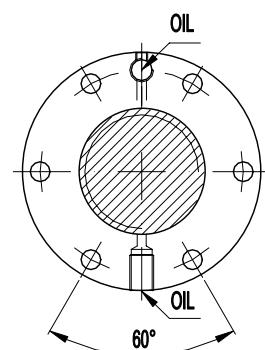
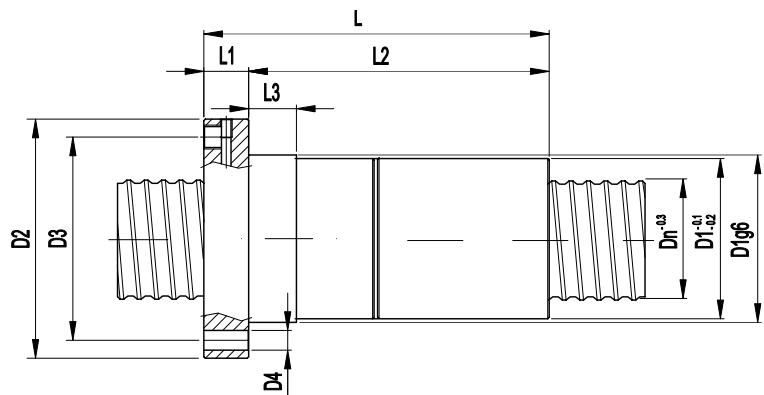
N O T E	mm	mm	N. Circ. balls	DIAMETER mm					S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil			
				D1g6	D2	D3	D4	D5		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls				
01	21	40	10	4+4	63	93	78	8x9	-	62	70	170	14	150	16	-	6	-	5985	11099	187	8x1 197
02																						
03																						
04																						
05																						

(²¹) - Oil hole under flange Ø4 - interasse Ø78



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm					S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil			
				D1g6	D2	D3	D4	D5		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls				
06		40	20	3+3	68	95	78	8x9	-	63	70	208	22	171	16	-	15	-	4648	8324	130	8x1 202
07																						
08																						
09																						
10																						



Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm					S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls	

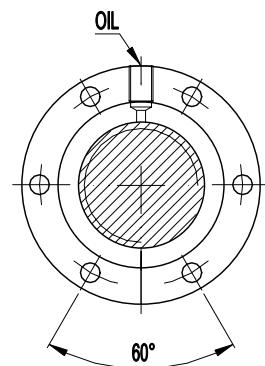
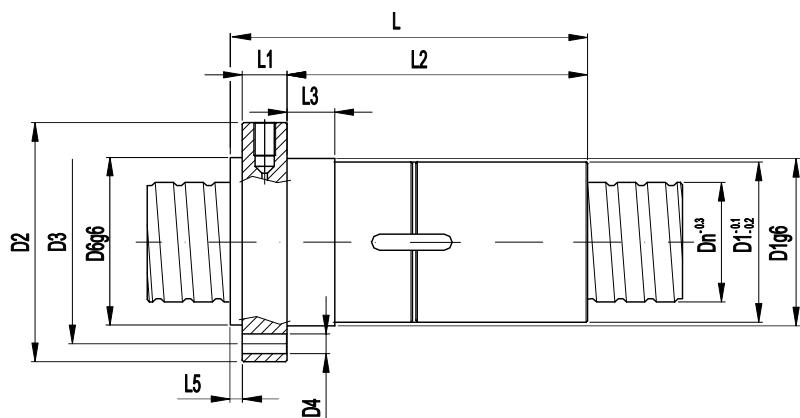
01	50	5	4+4	68	98	82	6x9	-	-	-	97	15	82	16	-	-	2898	7690	217	8x1 241
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02

03																			
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04

05																			
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Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	mm	mm	N. Circ. balls	DIAMETER mm					S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls	

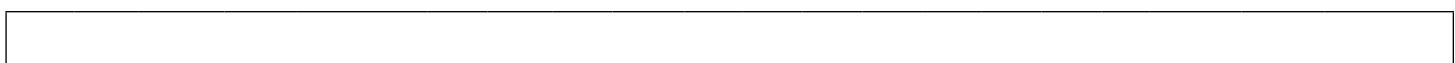
06	50	10	3+3	72	110	90	6x11	-	72	-	153	16	130	16	-	7	-	5185	10459	176	8x1 194
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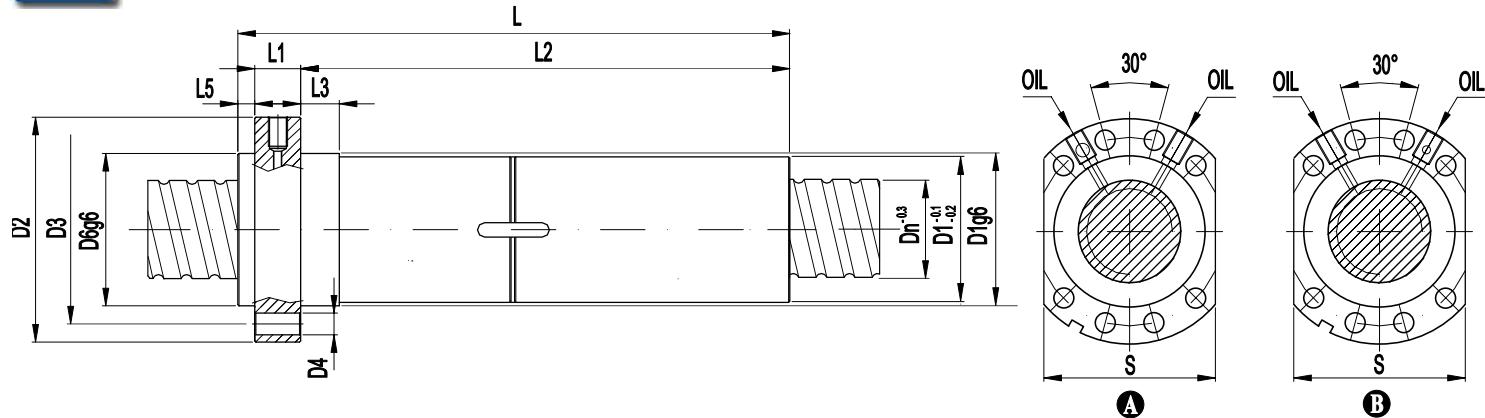
07

08																			
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09

10																			
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Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

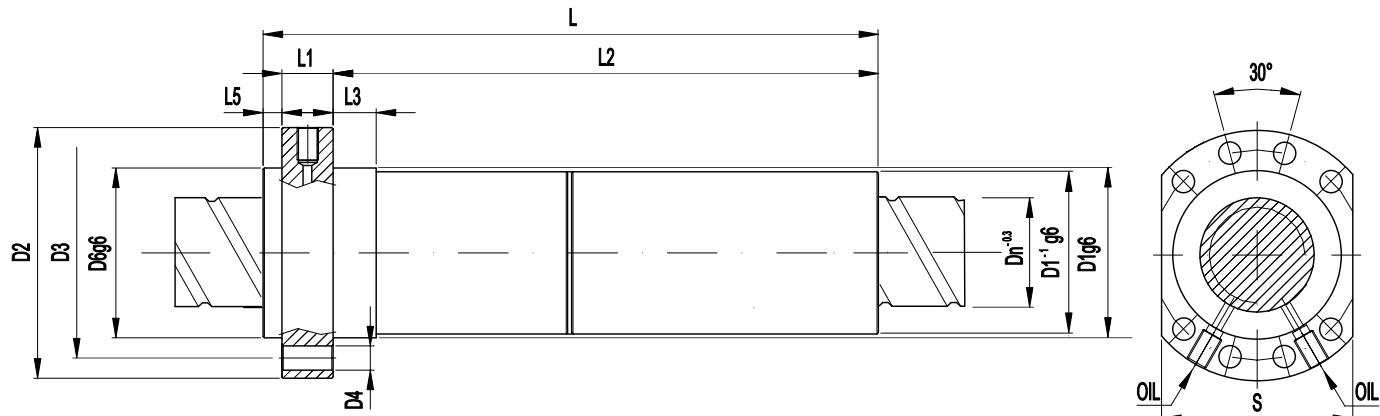
N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6g6		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls	

20 **A**³³ 50 5 6+6 75 110 93 8x11 - 75 85 125 16 102 16 - 7 - 4107 11536 315 8x1 403

21

01 **B**¹⁴ 50 10 4+4 75 110 93 8x11 - 75 85 171 16 148 16 - 7 - 6649 13946 236 8x1 251

(¹⁴) - Oil hole under flange ø3	(³³) - Oil hole ø3 under flange ø5
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Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil
				D1g6	D2	D3	D4	D5	D6g6		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls	

06 50 20 3+3 75 110 93 8x11 - 75 85 206 22 169 16 - 15 - 5166 10459 132 8x1 282

07 50 20 3+3 78 110 93 8x11 - 75 85 206 22 169 16 - 15 - 5166 10459 132 8x1 203

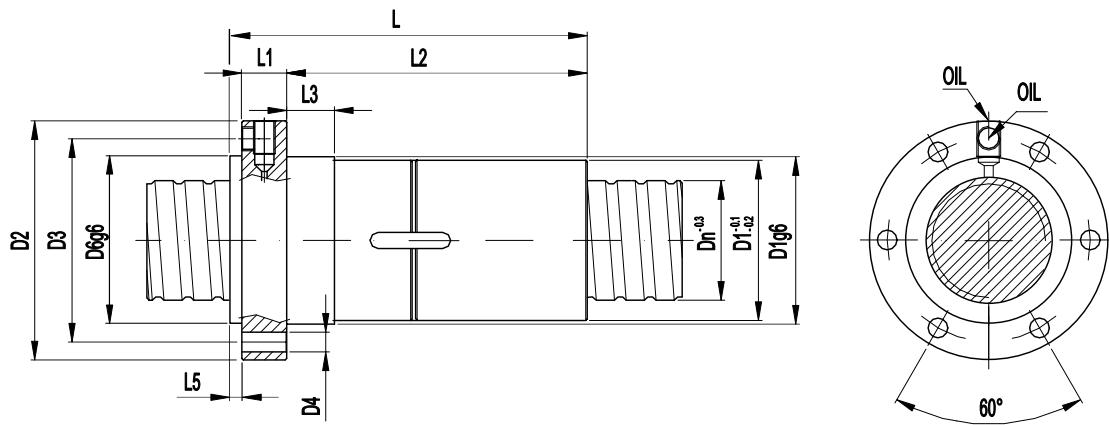
08 50 20 4+4 78 110 93 8x11 - 75 85 253 22 216 16 - 15 - 6888 13945 149 8x1 204

09 50 20 4+4 75 110 93 8x11 - 75 85 253 22 216 16 - 15 - 6888 13945 149 8x1 302

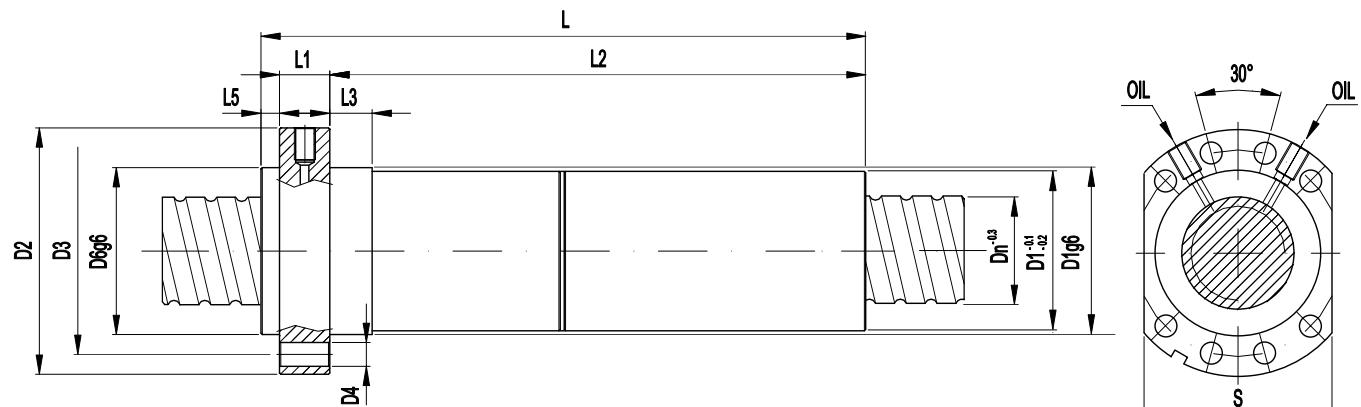
22

10 63 20 3+3 90 125 108 8x11 - 90 100 206 22 169 16 - 15 - 5714 13234 140 8x1 205

11 63 20 4+4 90 125 108 8x11 - 90 100 254 22 217 16 - 15 - 7600 17500 165 8x1 328

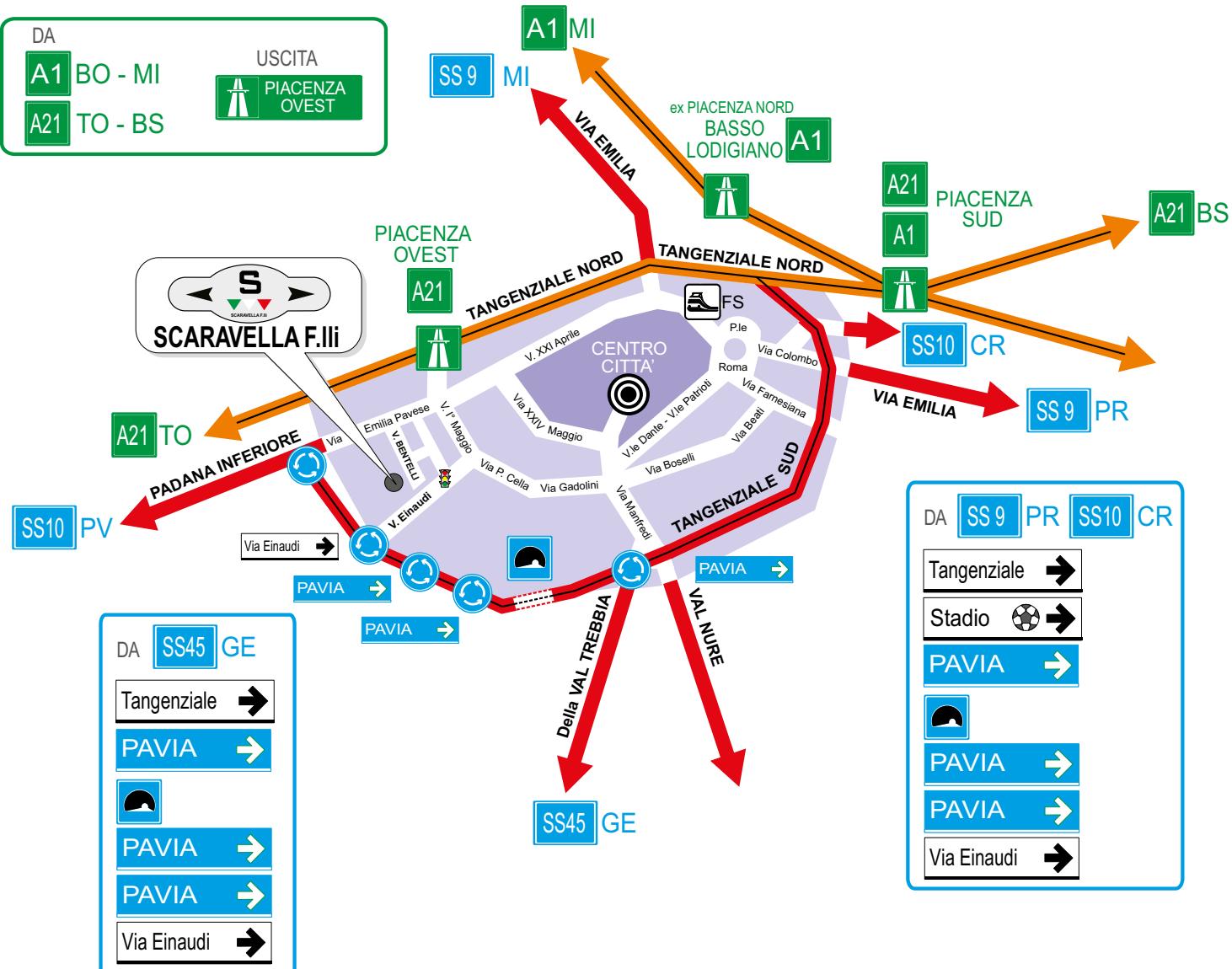

Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6g6		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls		
01	63	10	4+4	85	125	105	6x11	-	85	-	171	18	148	16	-	5	-	7335	17645	284	8x1 243
02	63	10	5+5	85	125	105	6X11	-	85	-	200	18	177	16	-	5	-	8887	22057	353	8x1 244
03	63	10	5+5	90	125	108	6x11	-	90	-	202	18	177	16	-	7	-	8887	22057	353	8x1 196
04																					
05																					


Limiting speed of screw/nut system: $n \times D_n \leq 90000$ (n = revolution/minutes D_n = Nominal diameter)

N O T E	D _n mm	Pitch mm	N. Circ. balls	DIAMETER mm						S mm	LENGTH mm						LOAD DaN		Rd DaN/ μm	Oil	
				D1g6	D2	D3	D4	D5	D6g6		L±1	L1	L2	L3	L4	L5	L6	Ld	Ls		
06	63	10	4+4	90	125	108	8x11	-	90	95	171	18	146	16	-	7	-	7335	17645	284	8x1 199
07	63	10	5+5	90	125	108	8x11	-	90	95	202	18	177	16	-	7	-	8887	22057	353	8x1 200
08																					
09																					
10																					

DOVE SIAMO



WHERE WE ARE



NOTE
