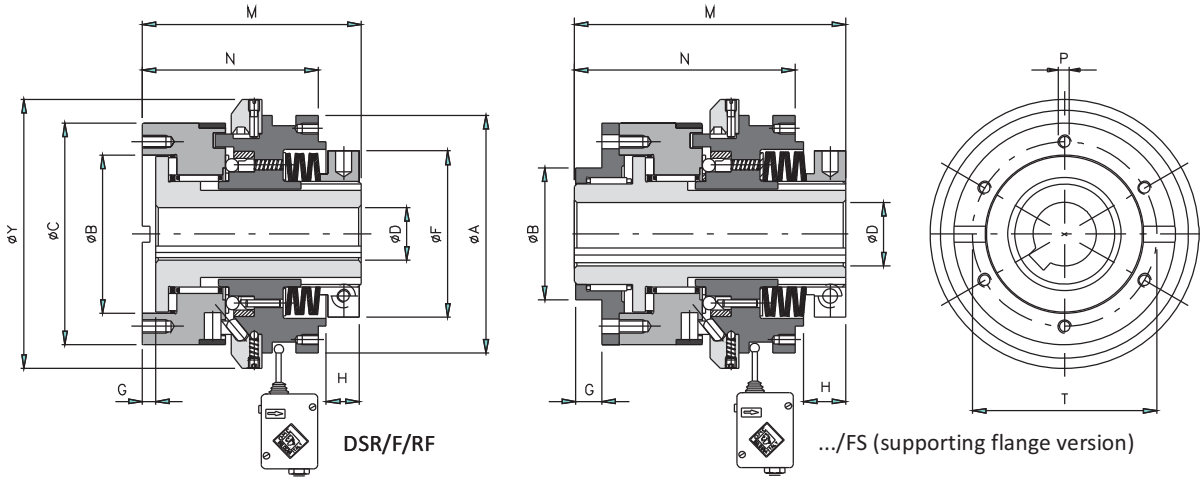


# DSR/F/RF (roller phase torque limiter free rotation): technical data

- Simple manual engagement without any specific equipment.
- Suitable for assembly in drive trains with high inertia.
- Available with longer shaft for assembly with transmission elements of large size: .../ML.
- Available with supporting flange for assembly of the drive element directly on the hub: .../FS.
- Model available only with finished bore.
- Torque range from 25 to 1460 Nm; max. bore  $\varnothing 68$  mm.



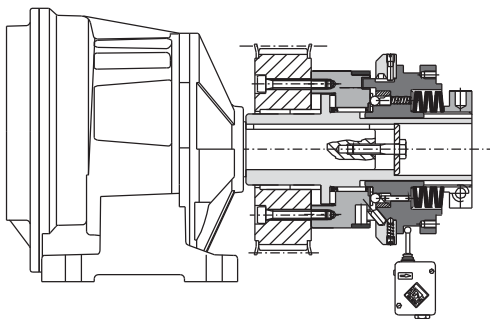
## DIMENSIONS AND TECHNICAL DETAILS

Size	Torque [Nm]	A			C	D H7			F	G		M		N		P	T	Y	Max. speed [Rpm]	Weight [Kg]	
		B (H7 - h7)		/FS		Pilot bore	max.	/FS		/FS	/FS	/FS	/FS	/FS	/FS					/FS	/FS
1.90	25 - 155	90	60	50	84	-	28	28*	63	5	9,5	86	103	67	84	M5	70	102	1500	3	3,5
2.110	90 - 360	110	78	60	104	-	40	38	82	4	11,5	93	112	68,5	87,5	M6	89	128	1100	4,7	5,5
3.130	80 - 450	130	90,5	80	124	20	50	50*	104	4	11,5	108	126	83	101	M8	105	146	900	7,8	9,3
4.160	125 - 1060	160	105	100	148	25	58	58*	128	8	15,5	138	163	108	133	M10	125	176	700	14,5	17,2
5.194	160 - 1460	194	120,5	120	176	28	68	68*	157	6,5	17,5	154	181	113	140,5	M12	155	205	550	22,9	26,3

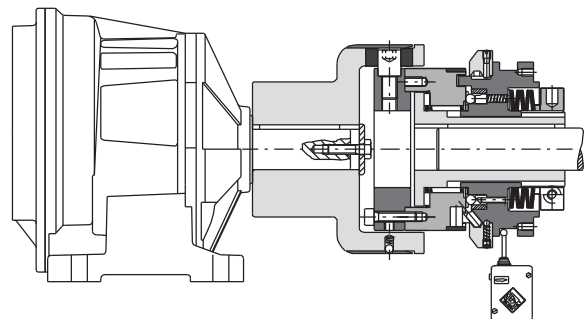
▲ On request

\* with reduced keyway UNI7510.

## APPLICATION EXAMPLES



Version .../ML with drive element supported by bronze bushing for parallel shafts transmissions with elements of large size.



Model DSR/F/RF with compact elastic coupling GEC for coaxial shafts connections.

## NOTE

- ⊗ Technical details: weights are relevant to the pilot bore torque limiter (DSR/F/RF).

# BALL OR ROLLER TORQUE LIMITER "DSS/DSR": additional information



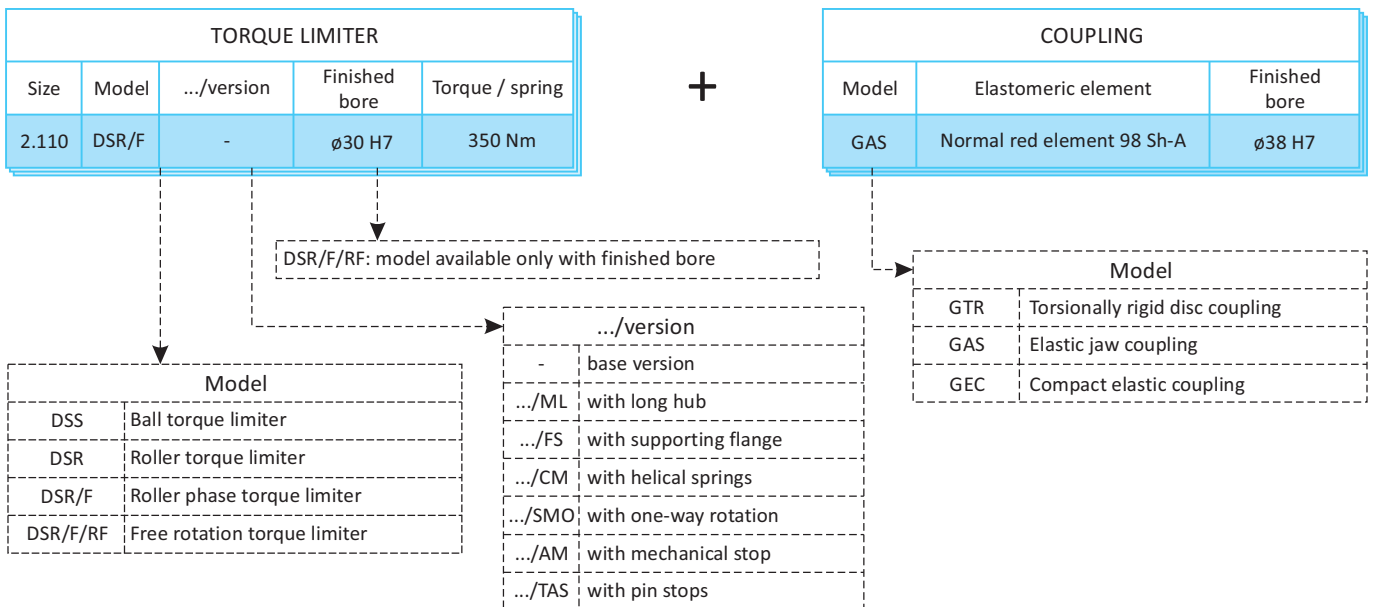
## TORQUE TRANSMISSION

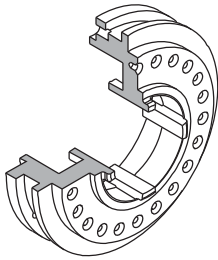
Torque transmitted [Nm] according to the spring configuration									
Size		A6S1 	A5M1 	A6M1 	A6M2 	A5G1 	A6G2 	ST 	SQ 
0.56	DSS	2,5 - 9,5		5,5 - 17,5	15 - 32			0,8 - 10,9	
	DSR	10 - 20		14 - 37	30 - 75			1,9 - 25,6	
1.90	DSS	18 - 48	24 - 55			35 - 90	55 - 155	2 - 40	5 - 90
	DSR	30 - 60	45 - 100			85 - 180	170 - 350	8 - 75	8 - 145
	DSR/F/RF	25 - 55	45 - 95			80 - 155			
2.110	DSS		19 - 72			55 - 160	80 - 290	9 - 50	12 - 100
	DSR		60 - 150			142 - 330	275 - 620	12 - 90	25 - 190
	DSR/F/RF		90 - 210			100 - 360			
3.130	DSS	40 - 100 *	50 - 225			70 - 300	130 - 540	12 - 135	24 - 190
	DSR	75 - 180 *	115 - 370			200 - 510	430 - 900	30 - 300	50 - 320
	DSR/F/RF	80 - 165 *	120 - 390			120 - 450			
4.160	DSS	70 - 200 *	90 - 325 *			150 - 690	300 - 1280		
	DSR	160 - 335 *	210 - 540 *			330 - 1040	750 - 1800		
	DSR/F/RF	125 - 310 *	190 - 550 *			310 - 1060			
5.194	DSS					360 - 1040	460 - 2050		
	DSR					540 - 1620	1050 - 2800		
	DSR/F/RF					430 - 1460			

Size		A12S1 	A14S1 	A15G1 	A16G1 				
6.240	DSR	1600 - 3800		2000 - 8000					
7.280	DSR		2000 - 5600		2500 - 12000				

\* Until stocks are finished

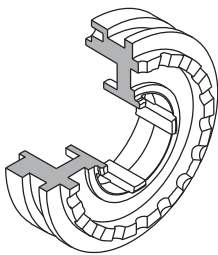
## ORDER EXAMPLE





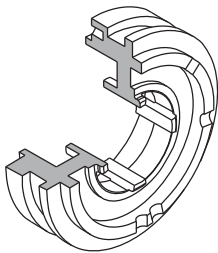
### DSS: Ball torque limiter with optimum sensitivity in case of sudden torque variations

- Ball transmission.
- High sensitivity and immediate intervention in case of minimal torque variation.
- Equidistant automatic re-engagement.
- Torque range from 2,5 to 2050 Nm; max. bore  $\varnothing$ 68 mm.
- Same intervention torque in both directions.



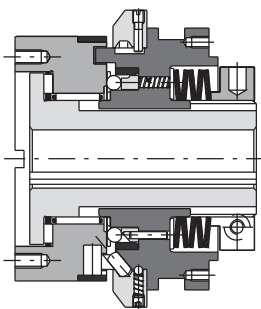
### DSR: Roller torque limiter for steady transmission at high torques and vibrations

- Roller transmission.
- Equidistant automatic re-engagement.
- High torque settings at reduced dimensions.
- Torque range from 10 to 12000 Nm; max. bore  $\varnothing$ 120 mm.
- Same intervention torque in both directions.



### DSR/F: Roller phase torque limiter, synchronised connection between input and output.

- Roller transmission.
- Optimized roller arrangement (patented) with perfect stability and 3 point contact.
- Automatic re-engagement in phase 360° or personalized (30°, 45°, 60°, 90°, 120°, ...)
- High torque settings at reduced dimensions.
- Torque range from 10 to 12000 Nm; max. bore  $\varnothing$ 120 mm.



### DSR/F/RF: roller phase torque limiter free rotation after disengagement, until inertial forces are stopped

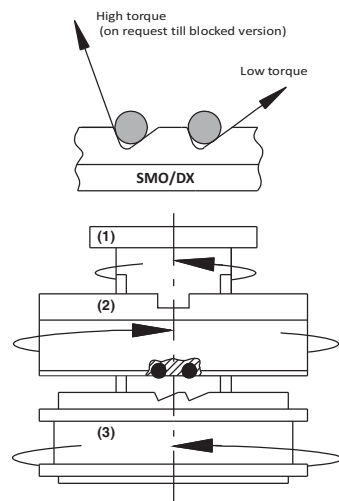
- Roller transmission.
- Free rotation after disengagement.
- one engagement in 360°.
- Same intervention torque in both directions.
- Torque range from 2,5 to 2800 Nm; max. bore  $\varnothing$ 68 mm.

## NUMBER OF RE-ENGAGEMENT IN 360°

Model	Size							
	0.56	1.90	2.110	3.130	4.160	5.194	6.240	7.280
DSS	24	22	20	20	22	15	-	-
DSR	18	18	16	16	16	24	24	24
DSR/F	1	1	1	1	1	1	1	1
DSR/F/RF	-	1	1	1	1	1	-	-

## VERSIONS

Example: DSR/F/SMO DX



### DSR/SMO: Torque limiter with different disengagement torques from clockwise to anti-clockwise rotation.

- ⊙ Different intervention torques in the two rotation directions.
- ⊙ Locking of one direction possible.
- ⊙ Roller transmission with automatic re-engagement.
- ⊙ Available with equidistant re-engagement or personalized angular phases.
- ⊙ Torque range from 10 to 12000 Nm; max. bore  $\varnothing$ 120 mm.

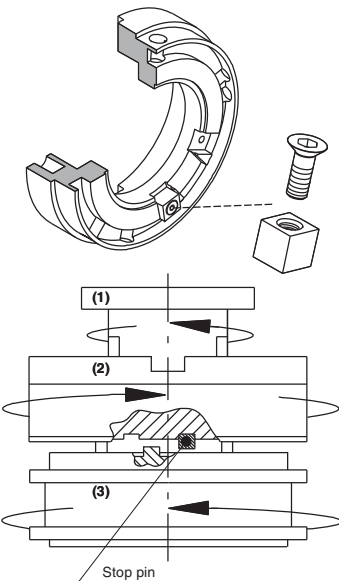
### DSR/SMO and DSR/F/SMO: determination of the rotation direction

To allow our engineers to select the correct direction "SX" or "DX" for your application, we require a drawing showing:

- 1) How the unit will be mounted on to the shaft (orientation).
- 2) The direction of rotation.
- 3) In which direction the high/low torque is required.



Example: DSR/F/AM DX



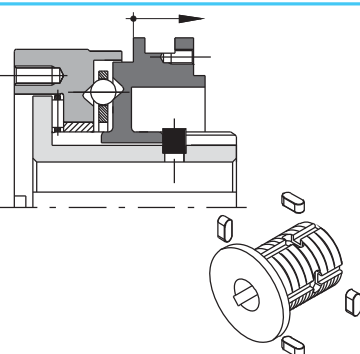
### DSR/F/AM: DSR/F/AM: Torque limiter with mechanical disconnection to maintain the timing between driver and driven

- ⊙ Stop pin resists 4 times the maximum torque.
- ⊙ 345° rotation allows the cancellation of the residual torque before the device stops.
- ⊙ Maintains the timing and re-engages in the same position.
- ⊙ High torque settings at reduced dimensions.
- ⊙ Torque range from 10 to 2800 Nm; max. bore  $\varnothing$ 68 mm.

### DSR/F/AM: determination of the rotation direction

To allow our engineers to select the correct direction "SX" or "DX" for your application, we require a drawing showing:

- 1) How the unit will be mounted on to the shaft (orientation).
- 2) The direction of rotation.
- 3) Confirm which drive will continue to rotate after the overload, the shaft or platewheel, pulley, etc.



### .../TAS: Torque limiter with stop pins

- ⊙ Complete disconnection prevented.
- ⊙ Minimum movement of the mobile base for an electrical signal to stop transmission.
- ⊙ Roller or ball transmission.
- ⊙ Torque range from 2,5 to 2800 Nm; max. bore  $\varnothing$ 68 mm.
- ⊙ Suitable for applications where the drive must not be disconnected.

# BALL AND ROLLER TORQUE LIMITERS “DSS or DSR”: introduction



- ⊙ Precise torque setting by adjusting the radially balanced locking nut.
- ⊙ The innovative regulation by the “H” dimension allows for immediate calibration.
- ⊙ Equidistant re-engagement in phase or at 360°.
- ⊙ Available with electromechanical switch / proximity for the transmission disconnection.
- ⊙ Immediate intervention for an improved reaction compared to electronic systems.
- ⊙ Maintenance-free for long lasting high reliability.
- ⊙ Suitable for oily and wet environments.

**ON REQUEST**

- ⊙ Complete with transmission gear, fully turned and mounted (plate wheel, pulley, gear pair).
- ⊙ Possibility to use helical springs for low intervention torques.
- ⊙ Connections with bore and keyway, locking assembly possible.
- ⊙ Version with personalized re-engagement in phase 30°, 45°, 60°, 90°... possible.

	DSS or DSR: basic model for coupling connections.	from 2,5 to 12000 Nm max. bore ø120 mm	Page 19	Models and versions described on pages 17 and 18
	.../FS: for the assembly of simple transmission elements.	from 2,5 to 12000 Nm max. bore ø120 mm	Page 20	
	DSR/F/RF: mechanical model with free rotation and phase 360°.	from 25 to 1460 Nm max. bore ø68 mm	Page 21	
	... + GTR: connection with torsionally rigid coupling.	from 2,5 to 2800 Nm max. bore ø90 mm	Page 22	
	... + GAS: connection with elastic coupling with high misalignments.	from 2,5 to 2800 Nm max. bore ø110 mm	Page 22	
	... + GEC: connection with elastic coupling with low misalignments.	from 2,5 to 12000 Nm max. bore ø180 mm	Page 23	

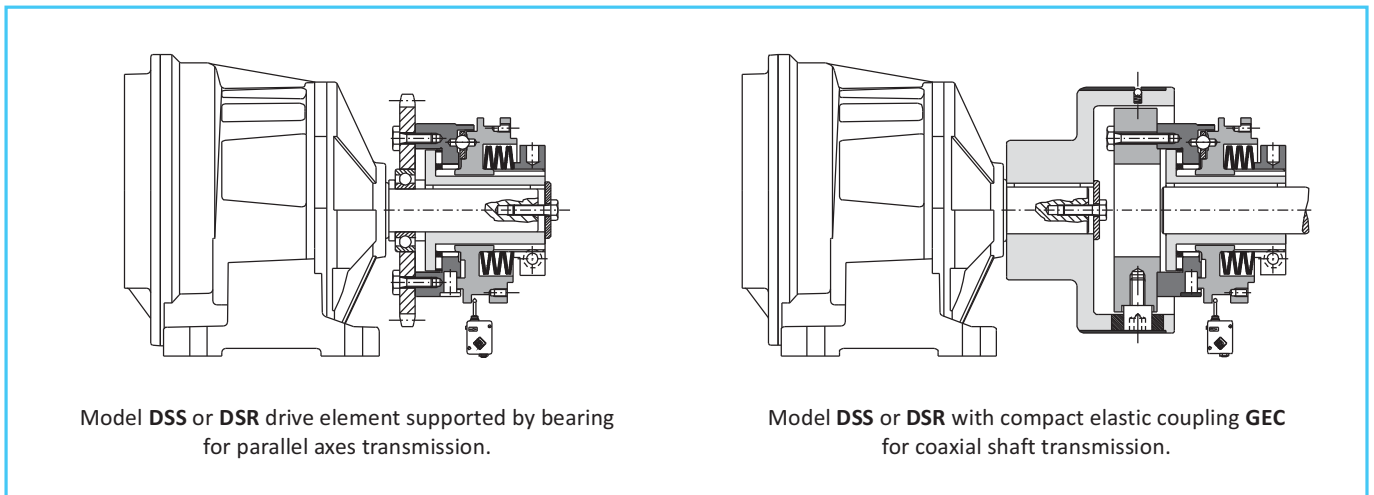
**MAIN APPLICATIONS**

- ⊙ Packaging and wrapping machines.
- ⊙ Labelling machines.
- ⊙ Bottling machines.
- ⊙ Conveyors.

**ADVANTAGES AND BENEFITS**

- ⊙ Protects the gearbox from jamming due to foreign matters.
- ⊙ Protects packages from squashing and deforming.
- ⊙ Protects the product handling elements from accumulations.
- ⊙ Maintains the timing between driver and driven after an overload.

**APPLICATION EXAMPLE**



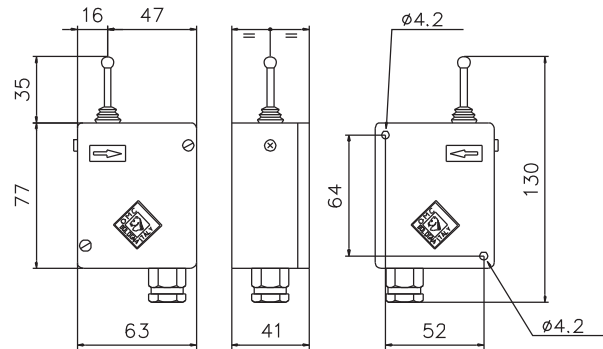
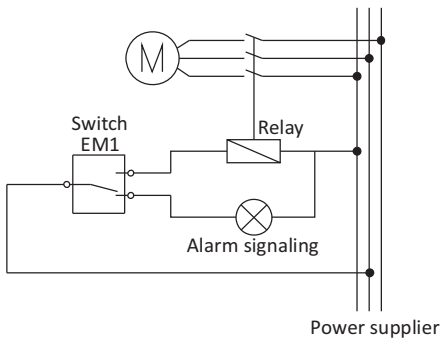
Model DSS or DSR drive element supported by bearing for parallel axes transmission.

Model DSS or DSR with compact elastic coupling GEC for coaxial shaft transmission.

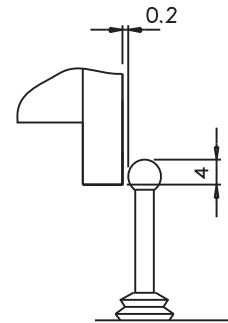


# ELECTROMECHANICAL SWITCH "EM1"

- Die-cast aluminium box with rotection level **IP57** DIN 40050.
- Adjustment of the lever end position possible.
- Operation temperature range from  $-10^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .
- Three different options of voltage input: 15A-250VCA; 5A-24VCC; 0,2A-250VCC.
- 1 or 2 contacts available.
- Initial stroke 0,5 mm, Extra stroke:  $4 \div 8$  mm depending on setting (possible in a range of 6 mm).

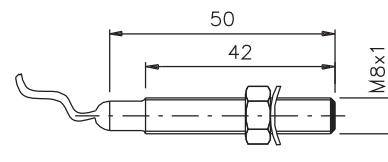
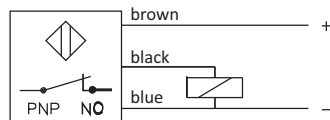
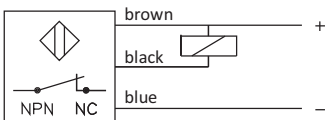
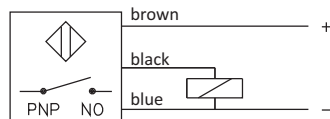
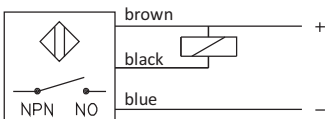


Weight: 350g



## PROXIMITY SENSOR "PRX"

- Standard version: Brass cover with protection level **IP67** DIN 40050.
- Electric contact:  $5 \div 24$  VdC.
- Frequency: 2000 Hz.
- Output: NPN (N.O.-N.C.) – PNP (N.O.-N.C.).
- Operating distance: max 1 mm.
- Cable length: 2 m (3x0,2).



Weight: 50g

