

# TORQUE LIMITER FOR GEARBOXES

(SAFETY COUPLINGS)

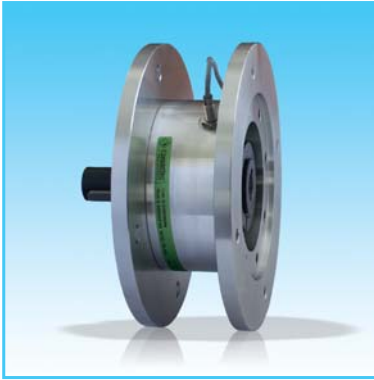
Up to 2.600 Nm of torque and 65 mm bore

.../PR



**ComInTec**<sup>®</sup>  
Technology for Safety

## .../PR - torque limiter for gearboxes: introduction



- ⦿ Safety coupling made in steel fully turned, spacer made in aluminium fully turned.
  - ⦿ Standard treatment of phosphating on torque limiter.
  - ⦿ Compact solution.
  - ⦿ Model available for IEC motors and gearboxes.
  - ⦿ Protection in both directions.
  - ⦿ Instant disengagement upon overload.
  - ⦿ Fast and simple calibration using our "H" dimension procedure.
- ON REQUEST
- ⦿ Device calibrated and ready to use.
  - ⦿ Friction rings available in various materials and performance to suit specific needs.
  - ⦿ Customized versions possible.
  - ⦿ Various anti-corrosive surface treatments available.

Safety coupling to be mounted between the motor and gearbox with flanged B5 spacer. Available in sliding (DF/TAC/PR-V) and disengage versions (DSS/F/SG/PR-V). The location of the limiter between the motor and gearbox requires a smaller size of device with also reduces costs.

### ■ MAIN APPLICATION

- ⦿ Conveyor.
- ⦿ Packaging machines.
- ⦿ Wrapping machines.
- ⦿ Motorized systems of handling and positioning.

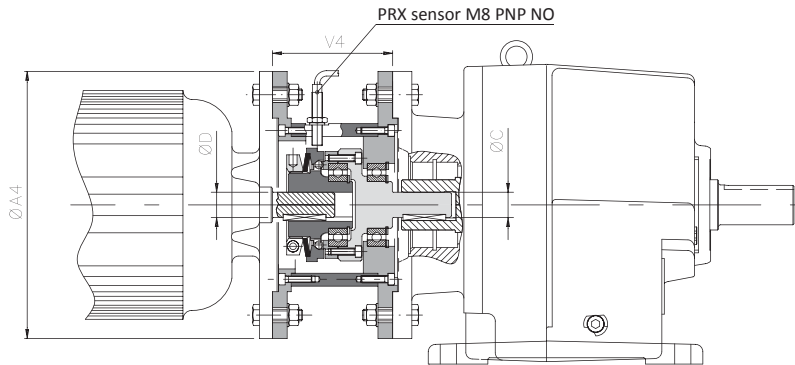
### ■ ADVANTAGES AND BENEFITS

- ⦿ Simplicity and sensitivity compared to gearbox integrated solutions.
- ⦿ Protect the motor-gearbox from accidental collisions or impacts from the products being processed.
- ⦿ Greatly reduces production downtime in case of overload.
- ⦿ Absorb static torques without disengaging (friction model).

	<p>DSS/F/SG/PR-V: Backlash free balls model to fit between motor and gearbox.</p>	<p>From 3 to 720 Nm of torque 48 mm max. bore / shaft</p>	<p>Page 57</p>
	<p>DF/TAC/PR-V: Friction model chain coupling version to fit between motor and gearbox.</p>	<p>From 1 to 1200 Nm of torque 55 mm max. bore / shaft</p>	<p>Page 58</p>
	<p>DF/PR: Friction model to assemble directly into the output of the hollow shaft gearbox.</p>	<p>From 1 to 2600 Nm of torque 65 mm max. bore 55 mm max. shaft</p>	<p>Page 59</p>

# DSS/F/SG/PR-V - backlash free balls model for gearboxes (input shaft): technical data

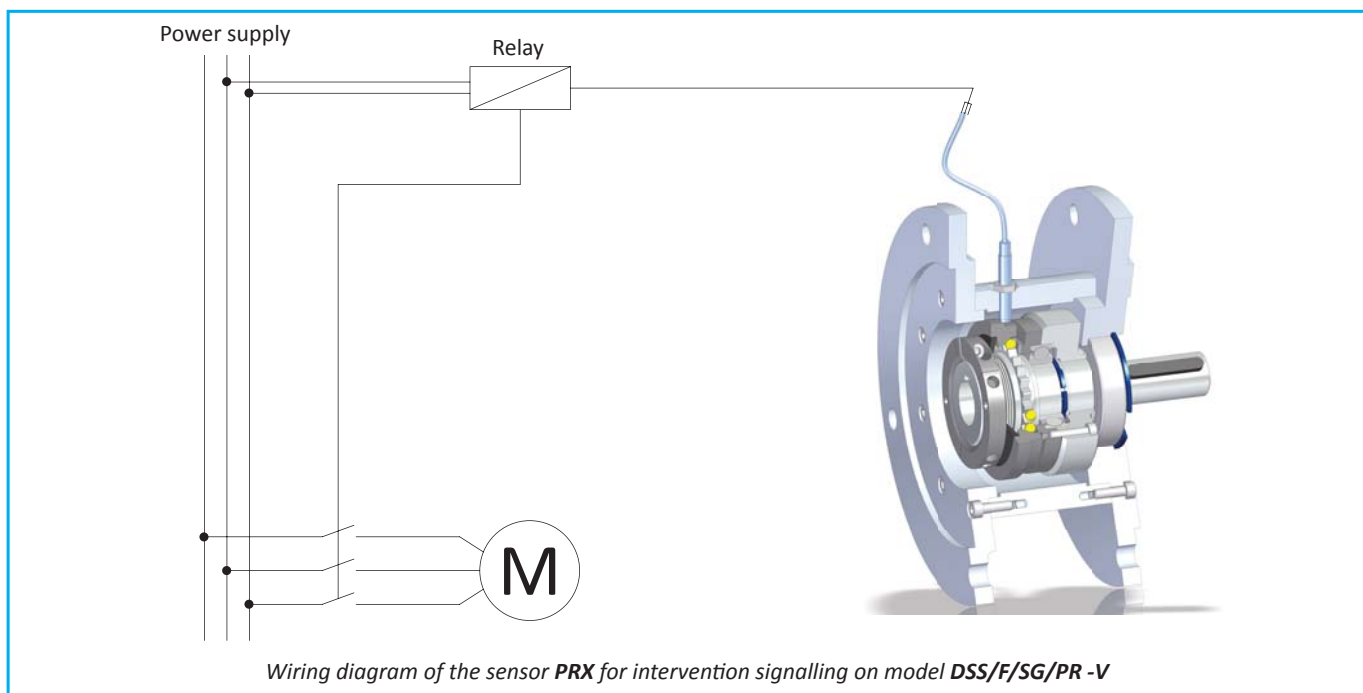
- Balls solution, torsional backlash free in negative version, maintenance free.
- Instant disengagement between driving part and driven part in the event of overload.
- Available with single point (360°) engagement.
- Complete solution with connecting flanges in aluminum for IEC B5 motors.
- Inductive sensor integrated for monitoring the overload.
- Torque range: 2-720 Nm; bore/shaft max  $\varnothing 48$  mm.



## DIMENSIONS AND TECHNICAL CHARACTERISTICS

Size	Torque [Nm]				Motor IEC	DSS/SG/PR-V		B5 Flange		Max speed [Rpm]	Weight [Kg]
	T1	T2	T3	T4		D H7 - C h7	A4	V4			
00.47	3 - 7,5	5 - 15	8,5 - 23	-	▲ 32	11	90	53	4000	1,1	
					63a	11	140	52,5		1,4	
					71a	14	160	54,5		1,6	
0.63	5 - 14	12 - 28	24 - 50	-	80a	19	200	78	4000	2,8	
1.80	9 - 28	18 - 60	40 - 100	-	90s	24	200	90	3000	3,9	
2.96	20 - 45	42 - 95	-	85 - 200	100La - 112M	28	250	110	2500	5,2	
▲ 3.116	35 - 100	75 - 200	-	195 - 415	132M	38	300	110	2000	12,5*	
▲ 4.138	75 - 190	140 - 345	-	245 - 720*	160L	42	350	126	1850*	26*	
					180L	48		126		28*	

## FITTING EXAMPLE



▲ On request

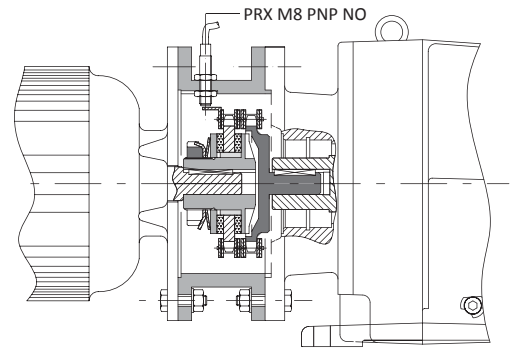
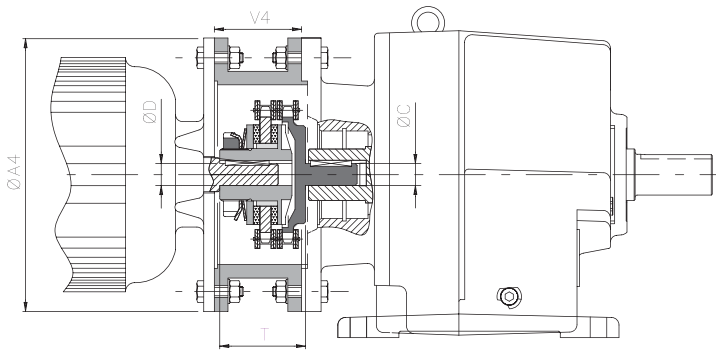
NOTES

- **Max speed\***: for size 4.138 DSS/F/SG/PR-V if used with the springs set T4 the maximum speed is 1500 Rpm.
- **Weight\***: the connection flanges for size 3.116 and 4.138 are in steel.

# DF/TAC/PR-V - friction model with chain coupling for gearboxes (input shaft): technical data



- Compact and economic solution.
- Sliding of the driving part to overcome the torque calibration without disconnecting the transmission.
- Silent intervention and vibration-free.
- Complete solution with connecting flanges in aluminum for IEC B5 motors.
- Possibility of integration of an inductive sensor for monitoring the overload (DF/TAC/PR-V/S).
- Torque range: 1-1.200 Nm; bore/shaft max:  $\varnothing 55$  mm.



DF/TAC/PR-V (without sensor) → spacer type A (with inspection)  
 DF/TAC/PR-V (without sensor) → spacer type B (without inspection) ▲

DF/TAC/PR-V/S (with sensor) → spacer type C (with inspection)

## DIMENSIONS AND TECHNICAL CHARACTERISTICS

Size	Torque [Nm]				Motor IEC	DF/TAC/PR-V		Spacer for B5 flange		Max speed [Rpm]	Weight [Kg]
	T0	T1	T2	T3		D H7 - C h7	T	A4	V4		
00.38	-	1 - 14	8 - 22	15 - 34	63a	11	43	140	43	5000	0,6
					71a	14 *		160			
0.50	2 - 12	4 - 40	17 - 70	23 - 100	80a	19	45	200	45,5	3800	1
					90S	24 *		55,5			
1.70	6 - 18	17 - 60	34 - 120	60 - 210	100La - 112M	28	64	250	66	2800	2,6
2.90	13 - 105	74 - 140	90 - 280	185 - 450	132M	38	72	300	83,5	2200	5,4
3.115	65 - 280	120 - 360	207 - 700	210 - 950	160L	42	104	350	121	1800	10,2
					180L	48					10,4
4.140	-	180 - 550	260 - 950	390 - 1200	200L	55	104	400	122	1500	18

## FITTING EXAMPLES

Model DF/TAC/PR-V for mounting between motor and gearbox complete with spacer type A and inspection.

Wiring diagram of the sensor PRX to intervention signaling on model DF/TAC/PR-V/S.

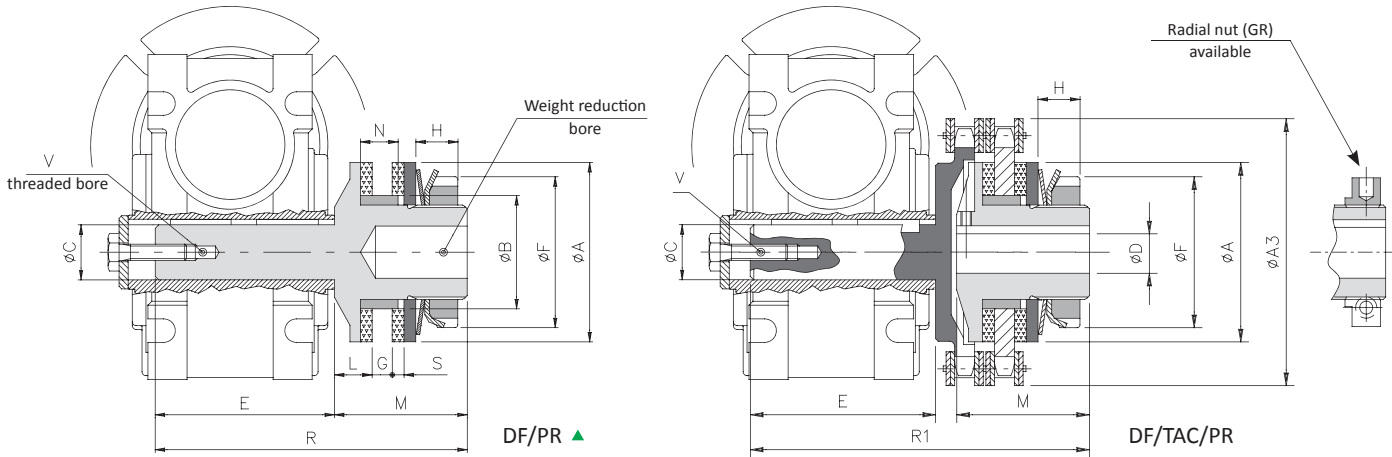
## NOTES

▲ On request

- D H7 \*: reduced keyway on torque limiter.
- Weight refer to the torque limiter pilot bore.

# DF/PR and DF/TAC/PR - friction model for gearboxes (output shaft): technical data

- Possibility of friction rings with different performance for specific needs.
- Specifically designed for installation on hollow output shaft gearboxes.
- Available complete with transmission component fully turned and fitted.
- Available with radial nut (.../GR) statically balanced.
- Model for gearboxes with a chain coupling, suitable for connections of coaxial shafts (DF/TAC/PR).
- Torque range: 1-2.600 Nm; max shaft:  $\varnothing 55$  mm; max bore:  $\varnothing 65$  mm.



## DIMENSIONS

Size	A3	A	B h7	C h7	D H7 max	E	F	G		L	M	N	R	R1	S	V
								min	max							
00.38	57	38	24	11	12	48	32	2,5	5	8	33	8	81	91	2,5	M4x10
0.50	75	50	36	14	20	53	44	3,5	6	10	35	10	88	98	3	M5x13
1.70	101	70	45	18	25	62	63	5	10	15	55	15	117	126	4	M6x16
				19		78							133	142		
				24		90							145	154		
				25		80							135	144		
2.90	126	90	60	25	38	90	82	7	12	16	60	17	150	164	4	M8x20
				28		110							170	184		
3.115	159	115	72	32	45	120	104	9	16	18	70	21	190	212	4	M10x25
				35		118							188	210		
				38		138							208	230		
4.140	184	140	85	42	55	152	130	13	19	20	80	25	232	258	5	M12x32
				45		163							243	269		
				48		178							258	284		
5.170	215	170	98	50	65	167	158	15	22	22,5	95	28	262	286	5	M16x40
				55		208							303	327		

## TECHNICAL CHARACTERISTICS

Size	Torque [Nm]				Max speed [Rpm]		Weight [kg]	
	T0	T1	T2	T3	DF/PR	DF/TAC/PR	DF/PR	DF/TAC/PR
00.38	-	1 - 14	8 - 22	15 - 34	10000	5000	0,2	0,6
0.50	2 - 12	4 - 40	17 - 70	23 - 100	7600	3800	0,4	1,0
1.70	6 - 18	17 - 60	34 - 120	60 - 210	5450	2800	1,2	2,8
2.90	13 - 105	74 - 140	90 - 280	185 - 450	4250	2200	2,2	5,7
3.115	65 - 280	120 - 360	207 - 700	210 - 950	3350	1800	3,9	10,7
4.140	-	180 - 550	260 - 950	390 - 1200	2750	1500	7,3	19,3
5.170	-	160 - 700	300 - 1450	1000 - 2600	2250	1300	12,1	29,8

▲ On request

## NOTES

- Weight refer to the torque limiter pilot bore.

## .../PR - torque limiter for gearboxes: additional information

### ORDER EXAMPLE

TORQUE LIMITER FOR GEARBOXES					DRIVE ELEMENT (ref. to DF/PR)	
Size	Model	Spacer	Shaft / Bore	Torque/Springs	Description	
0.50	DF/TAC/PR-V	with type A spacer	ø28 h7/H7	T1	Simple plate wheel 3/8" x 7/32" Z=22	

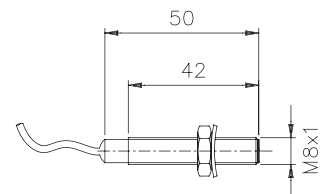
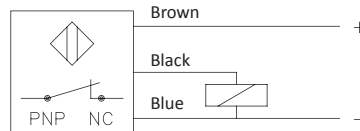
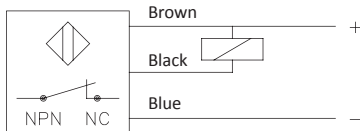
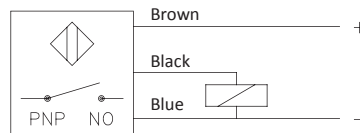
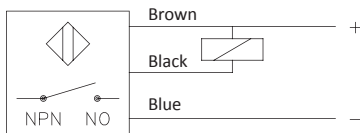
Size	Model	Spacer	Springs
00.38 to 5.170	DSS/F/SG/PR-V	● Spacer (ref. to TAC/PR-V)	T0
00.47 to 4.138	● DF/TAC/PR-V	Type A	T1
	● DF/TAC/PR-V/S	Type B	T2
	DF/PR		T3
			T4

- DF/TAC/PR-V model is supply combined with the corresponding spacer (type A or type B)
- DF/TAC/PR-V/S model is supply combined with the corresponding spacer (type C), complete with inductive proximity sensor (PRX).

## PRX - inductive proximity sensor: technical data



- Standard version with brass cover with protection **IP67** DIN 40050.
- Electric contact 5 ÷ 24 VCC and working frequency 2000 Hz.
- Operating temperature from -20°C to +70°C.
- Output: NPN (N.O. - N.C.); PNP (N.O. - N.C.).
- Intervention distance: max 1 mm.
- Cable length: 2 meter (3x0,2).



Weight: 50g

