

## Safety Clutches CM

**Material:** Steel.

Overload system operating on the positive principle, available in 5 sizes. For each size there are 4 different disk-plate sets for different torque ranges. **The required disk-plate set has to be ordered separately and is supplied unassembled.**

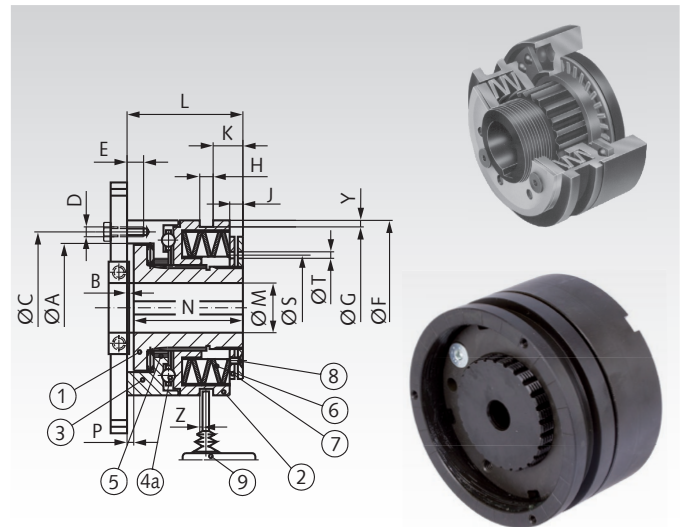
When mounting simple driving elements, as sprockets, pulleys, etc., always make sure the shaft is supported. Optimal protection against overloads. Trigger torque can be adjusted. High reproducibility of the triggering and re-engaging process. Robust design, long service life, absolutely maintenance free. Immediate free-wheeling of the drive. Automatic emergency stop of the driving unit through switch (to be ordered separately). Not negatively affected by frequent triggering sequences. On request with works adjustment of torque limit.

**The disk-plate sets (S, M, L or LL) and the limit switch (emergency-stop switch) for all sizes Product No. 612 605 00 (page 432) have to be ordered separately.**

**Customized bores and feather-key grooves available at extra charge.**

Ordering Details: e.g.: Product No. 612 620 00, Safety Clutch CM, Size 20  
Product No. 612 620 02, Disk-Plate Set M (essential information)

Product No.	Size	A	B	C	D	E	F	G	H	K	J	L	M <sub>min.</sub>	M <sub>max.</sub>	N	P	R	S	T	Y	Z	Weight	
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
612 620 00	20	41	4	48	6xM5	6,5	55	50	9	7,5	3	38,5	7	20	34,5	3,1	6	38,5	5	2	0,3	0,5	
612 625 00	25	60	4	70	6xM5	8	82	72	9	11,5	6	52	10	25	48	3,1	6	54	6	2	0,3	1,5	
612 635 00	35	78	5	89	6xM6	10	100	91	9	12	6	61	14	35	56	3,6	8	70	6	2	0,5	2,9	
612 645 00	45	90,5	5	105	6xM8	12	120	112	9	22	8,5	78	18	45	72	4,1	10	84	6	2	0,5	5,0	
612 655 00	55	105	6,5	125	6xM10	15	146	140	9	27	11	100	24	55	93,5	4,1	14	108	10	2	0,8	9,8	



**Other types on request:** Beside the standard type (dis-engaging / re-engaging), there are synchron types, lock types and releasing types available.

### Technical Data and Product No. of Disk-Plate Sets

Product No.	Product No	S	Nm for Disk-Plate Sets				Product No.	LL	Max. Speed	
			Product No.	M	Product No.	L			S-M	L-LL
612 620 00	612 620 01	2,5 - 5	612 620 02*	5 - 10	612 620 02*	10 - 20	612 620 04	20 - 40	3300	1800
612 625 00	612 625 01	6,0 - 12	612 625 02	12 - 25	612 625 03	25 - 60	612 625 04	60 - 100	2890	1450
612 635 00	612 635 01	12,0 - 25	612 635 02	25 - 50	612 635 03	50 - 120	612 635 04	120 - 200	2350	1200
612 645 00	612 645 01	25,0 - 50	612 645 02	50 - 100	612 645 03	100 - 250	612 645 04	250 - 400	2000	1000
612 655 00	612 655 01	50,0 - 100	612 655 02	100 - 200	612 655 03	200 - 500	612 655 04	500 - 800	1650	850

\* This spring set covers both torque ranges M and L (only for size 20).

### Possible Disk-Plate Sets

S (light)		M (medium)		L (heavy)		LL (very heavy)	
Size 20 - 55	6 x 1S	Size 20 - 55	5 x 1M	Size 20	5 x 1M	Size 20	4 x 1L
				Size 25 - 55	5 x 1L	Size 25 - 55	3 x 2L

### Functioning

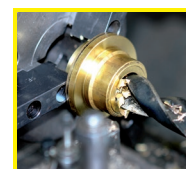
At normal operating conditions, the safety clutch transmits the torque from the driving shaft via the ball race onto the flange (3). The balls (4a) are pressed into the CNC-milled recesses in part (2) and (3) by the disk plates (6). In case of overload, i.e., if the torque request exceeds the preset limit, the clutch halves are separated; the remaining transmitted torque is very low. When the balls are lifted out of the recesses, against the spring pressure, the clutch part number (2) is moved in axial direction. This movement can be used to trigger an emergency-stop switch (9) for an engine. The clutch re-engages on its own as soon as the torque requirement falls below the set limit. Torque adjustment: By screwing in the torque-adjusting nut (7) all disk plates are further pretensioned (6). As soon as the desired pretension is achieved, the adjusting screw has to be fixed in position with the set screws (8).

### Operating Factors

This table shows the operating factor that should - dependent on the type of application - be used as basis for calculating the correct size.

#### Operating Conditions

Centrifugal Moment	Uniform	Shock	Reversing
Low	1,4	1,7	2,0
Medium	1,7	2,0	2,3
High	2,0	2,4	2,6



**Reworking within 24h-service possible. Custom made parts on request.**