PARALLEL OSCILLATING DRIVES

65P-80P-105P-130P

CF3

Prism-shaped sealed cast iron housing
Outer surfaces machined, with support on 6 sides.
Possibility of mounting housing in all positions.
Parallel shafts projecting in input and output.
Roller bearings on opposite taper roller shafts.
Oil-bath lubrication.
Worm gear reducer splined directly to housing.
Precise repeatable index motion.
Self locking in dwell and zero backlash.
Smooth and shock-free movement
Bidirectional sense of motion.

COLOMBO FILIPPETTI
COLLABORATIVE ENGINEERING

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The units of measurement correspond with System International /Severity Index SI General tolerances of manufacture are conform to UNI – ISO 2768-1 UNI EN 22768-1
Illustrations and drawings according to UNI 3970 (ISO 128-82).
Method of projection of the drawings.
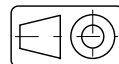
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CF3 OSCILLATING DRIVE

INTRODUCTION

The CF3 OSCILLATING DRIVES are parallel axis mechanisms, which transform the constant rotary motion of the input shaft into intermittent oscillating motion of the output shaft by way of a conjugate cam transmission and roller feeler.

The features, which make the CF3 OSCILLATING DRIVES a high quality, reliable product are their simple structure, principles of motion with mathematically calculated acceleration tested in numerous applications, the use of the most suitable design and production technology, precise, ongoing checks of the parts during the production cycle, and long experience in the calculation, manufacture and application possibilities of cam mechanisms. The drives offer the precision, high speed, low vibration, silence totally repeatable movement, versatility of application etc. required by the latest automatic machines.

DESCRIPTION

The width of oscillation of the output shaft is known as "ANGULAR STROKE" and is indicated by the letter "H".

The full cycle, comprising two revolutions of the same width in opposite directions (oscillation) with or without intermediate dwell periods, is produced by one complete revolution (360°) of the input shaft.

This cycle is divided into four periods or times which are named according to the order of performance:

1: MOTION PERIOD
   indicated as "A"
2: DWELL PERIOD
   indicated as "B"
3: MOTION PERIOD
   Indicated as "C"
4: DWELL PERIOD
   Indicated as "D"

The point at which this chronological sequence begins is the "CYCLE STARTING POINT"; this point is always followed by MOTION PERIOD "A" , regardless of the direction of rotation of the input shaft and of the direction of rotation to be obtained from the output shaft during MOTION PERIOD "A".

The PHASE AXIS, which coincides with the axis of the input shaft keyway, is always located halfway along indexing period "A".

TIMING DIAGRAM

Fig. 1

SPECIFICATIONS

Angular stroke H°[deg]	Dimens. series	A motion	B dwell	C motion	D dwell	Static torque Ms [daN m]	50	100	200	300	400	500	Acceleration factor Ca	Input torque factor K
		PERIODS T°[deg] OF CYCLE					Dynamic output torque Mu [daN m] R.P.M.							
15	65 P	30	150	30	150	8.9	6.6	6.5	5.1	4.4	3.8	3.4	5.53	0.49
	80 P					19.4	14.0	12.9	10.3	8.8	7.7	6.8		
	105 P					34.5	25.7	21.9	17.4	14.9	13.0	11.5		
	130 P					97.7	64.7	60.5	48.1	41.1	35.9	31.7		
	65 P	30	300	30	0	8.9	6.6	6.6	5.2	4.5	3.9	3.4	5.31	0.47
	80 P					19.4	14.1	13.1	10.4	8.9	7.8	6.9		
	105 P					34.5	25.5	22.3	17.7	15.1	13.2	11.7		
	130 P					97.7	64.4	61.2	48.7	41.6	36.3	32.1		
	65 P	45	135	45	135	8.9	6.4	5.5	4.3	3.7	3.2	2.8	5.53	0.33
	80 P					19.4	13.4	10.8	8.6	7.3	6.4	5.7		
	105 P					34.5	23.0	18.6	14.8	12.6	11.1	9.8		
	130 P					97.7	66.1	53.4	42.4	36.2	31.7	28.0		
	65 P	45	270	45	0	8.9	6.5	5.4	4.3	3.7	3.2	2.8	5.31	0.32
	80 P					19.4	13.3	10.8	8.6	7.3	6.4	5.6		
	105 P					34.5	23.0	18.5	14.7	12.6	11.0	9.7		
	130 P					97.7	65.8	53.2	42.3	36.1	31.6	27.9		
	65 P	60	120	45	120	8.9	6.0	4.8	3.8	3.3	2.9	2.5	5.53	0.25
	80 P					19.4	11.9	9.6	7.6	6.5	5.7	5.0		
	105 P					34.5	20.6	16.6	13.2	11.3	9.9	8.7		
	130 P					97.7	59.6	48.2	38.3	32.7	28.6	25.2		
	65 P	60	240	60	0	8.9	5.9	4.8	3.8	3.2	2.8	2.5	5.31	0.24
	80 P					19.4	11.8	9.5	7.5	6.4	5.6	5.0		
	105 P					34.5	20.5	16.5	13.1	11.2	9.8	8.7		
	130 P					97.7	59.1	47.8	38.0	32.4	28.4	25.0		
	65 P	90	90	90	90	8.9	5.1	4.1	3.3	2.8	2.5	2.2	5.53	0.16
	80 P					19.4	10.2	8.2	6.5	5.6	4.9	4.3		
	105 P					34.5	17.8	14.4	11.4	9.8	8.5	7.5		
	130 P					97.7	51.9	41.9	33.3	28.4	24.9	21.9		
	65 P	90	180	90	0	8.9	5.0	4.1	3.2	2.8	2.4	2.1	5.31	0.16
	80 P					19.4	10.1	8.1	6.5	5.5	4.8	4.3		
	105 P					34.5	17.5	14.1	11.2	9.6	8.4	7.4		
	130 P					97.7	51.0	41.2	32.7	28.0	24.5	21.6		
	65 P	120	60	120	60	8.9	4.6	3.7	3.0	1.5	2.2	2.0	5.53	0.12
	80 P					19.4	9.3	7.5	6.0	5.1	4.5	4.0		
	105 P					34.5	16.1	13.0	10.3	8.8	7.7	6.8		
	130 P					97.7	47.0	38.0	30.2	25.8	22.6	19.9		
	65 P	120	120	120	0	8.9	4.6	3.7	2.9	2.5	2.2	1.9	5.31	0.12
	80 P					19.4	9.2	7.4	5.9	5.0	4.4	3.9		
	105 P					34.5	15.8	12.8	10.1	8.7	7.6	6.7		
	130 P					97.7	46.2	37.4	29.7	25.4	22.2	19.6		
	65 P	150	30	150	30	8.9	4.3	3.5	2.8	2.4	2.1	1.8	5.53	0.10
	80 P					19.4	8.8	7.1	5.7	4.8	4.2	3.7		
	105 P					34.5	14.9	12.1	9.6	8.2	7.2	6.3		
	130 P					97.7	43.7	35.3	28.1	24.0	21.0	18.5		
	65 P	150	60	150	0	8.9	4.2	3.4	2.7	2.3	2.0	1.8	5.31	0.09
	80 P					19.4	8.6	6.9	5.5	4.7	4.1	3.6		
	105 P					34.5	14.6	11.8	9.4	8.0	7.0	6.2		
	130 P					97.7	42.8	34.6	27.5	23.5	20.5	18.1		
	65 P	180	0	180	0	8.9	4.1	3.3	2.6	2.2	2.0	1.7	5.53	0.08
	80 P					19.4	8.4	6.8	5.4	4.6	4.0	3.5		
	105 P					34.5	14.0	11.3	9.0	7.7	6.7	5.9		
	130 P					97.7	41.2	33.3	26.4	22.6	19.8	17.4		

CF3 OSCILLATING DRIVE

SPECIFICATIONS

Angular stroke H°[deg]	OSCILLATING DRIVE CODE					Static Torque Ms [daN m]	Dynamic output torque Mu [daN m]						Acceleration factor Ca	Input torque factor K
	Dimens. series	PERIODS T°[deg] OF CYCLE							R.P.M.					
		A motion	B dwell	C motion	D dwell		50	100	200	300	400	500		
20	65 P	45	135	45	135	8.8	6.5	6.5	5.6	4.7	4.2	3.7	5.53	0.44
	80 P					19.3	13.8	13.8	11.1	9.5	8.3	7.3		
	105 P					34.2	26.9	24.1	19.2	16.4	14.3	12.6		
	130 P					96.8	76.7	69.8	55.5	47.4	41.4	36.6		
	65 P	45	270	45	0	8.8	6.6	6.6	5.5	4.7	4.1	3.6	5.31	0.42
	80 P					19.3	14.0	13.8	11.0	9.4	8.2	7.2		
	105 P					34.2	27.0	24.0	19.1	16.3	14.2	12.6		
	130 P					96.8	79.4	69.8	55.4	47.4	41.1	36.6		
	65 P	60	120	60	120	8.8	6.4	6.1	4.9	4.2	3.6	3.2	5.53	0.33
	80 P					19.3	13.6	12.2	9.7	8.3	7.3	6.4		
	105 P					34.2	26.3	21.3	16.9	14.5	12.6	11.1		
	130 P					96.8	77.0	62.2	49.4	42.2	36.9	32.6		
	65 P	60	240	60	0	8.8	6.3	6.1	4.8	4.1	3.6	3.2	5.31	0.32
	80 P					19.3	13.4	12.1	9.6	8.2	7.2	6.3		
	105 P					34.2	26.0	21.0	16.7	14.3	12.5	11.0		
	130 P					96.8	76.1	61.5	48.9	41.7	36.5	32.2		
	65 P	75	105	75	105	8.8	6.3	5.6	4.5	3.8	3.3	2.9	5.53	0.26
	80 P					19.3	13.5	11.2	8.9	7.6	6.6	5.9		
	105 P					34.2	24.2	19.5	15.5	13.3	11.6	10.2		
	130 P					96.8	70.7	57.1	45.4	38.8	33.9	29.9		
	65 P	75	210	75	0	8.8	6.1	5.5	4.4	3.8	3.3	2.9	5.31	0.25
	80 P					19.3	12.9	11.0	8.8	7.5	6.5	5.8		
	105 P					34.2	23.7	19.2	15.2	13.0	11.4	10.0		
	130 P					96.8	69.5	56.1	44.6	38.1	33.3	29.1		
	65 P	90	90	90	90	8.8	6.3	5.2	4.2	3.6	3.1	2.7	5.53	0.22
	80 P					19.3	13.0	10.5	8.3	7.1	6.2	5.5		
	105 P					34.2	22.5	18.2	14.4	12.3	10.8	9.5		
	130 P					96.8	65.9	53.2	42.3	36.1	31.6	27.9		
	65 P	90	180	90	0	8.8	5.9	5.1	4.1	3.5	3.1	2.7	5.31	0.21
	80 P					19.3	12.6	10.3	8.2	7.0	6.1	5.4		
	105 P					34.2	22.1	17.8	14.2	12.1	10.6	9.3		
	130 P					96.8	64.7	52.2	41.5	35.5	31.0	27.4		
	65 P	120	60	120	60	8.8	5.9	4.8	3.8	3.2	2.8	2.5	5.53	0.16
	80 P					19.3	12.0	9.7	7.7	6.6	5.7	5.1		
	105 P					34.2	20.2	16.3	13.0	11.1	9.7	8.6		
	130 P					96.8	59.3	47.9	38.1	32.5	28.5	21.1		
	65 P	120	120	120	0	8.8	5.8	4.7	3.7	3.2	2.8	2.5	5.31	0.16
	80 P					19.3	11.7	9.4	7.5	6.4	5.6	4.9		
	105 P					34.2	19.9	16.0	12.7	10.9	9.5	8.4		
	130 P					96.8	58.2	47.0	37.4	31.9	27.9	24.6		
	65 P	150	30	150	30	8.8	5.5	4.5	3.5	3.0	2.7	2.3	5.53	0.13
	80 P					19.3	11.3	9.1	7.2	6.2	5.4	4.8		
	105 P					34.2	18.7	15.1	12.0	10.3	9.0	7.9		
	130 P					96.8	54.9	44.4	35.2	30.1	6.3	23.2		
	65 P	150	60	150	0	8.8	5.4	4.4	3.5	3.0	2.6	2.3	5.31	0.13
	80 P					19.3	10.9	8.8	7.0	6.0	5.2	4.6		
	105 P					34.2	18.3	14.8	11.8	10.1	8.8	7.8		
	130 P					96.8	53.7	43.4	34.5	29.5	25.8	22.7		
	65 P	180	0	180	0	8.8	5.2	4.2	3.4	2.9	2.5	2.2	5.53	0.11
	80 P					19.3	10.8	8.7	6.9	5.9	5.2	4.6		
	105 P					34.2	17.6	14.2	11.3	9.6	8.4	7.4		
	130 P					96.8	51.6	41.7	33.1	28.3	24.8	21.8		

SPECIFICATIONS

Angular stroke H°[deg]	Dimens. series	OSCILLATING DRIVE CODE PERIODS T°[deg] OF CYCLE				Static Torque Ms [daN m]	Dynamic output torque Mu [daN m] R.P.M.						Acceleration factor Ca	Input torque factor K
		A motion	B dwell	C motion	D dwell		50	100	200	300	400	500		
30	65 P	45	135	45	135	8.7	6.6	6.6	6.6	5.8	5.1	4.5	5.53	0.66
	80 P					18.9	14.1	14.1	13.5	11.6	10.1	8.9		
	105 P					33.4	27.5	27.3	23.5	20.0	17.5	15.5		
	130 P					94.2	80.4	80.0	68.5	58.6	51.2	45.2		
	65 P	45	270	45	0	8.7	6.7	6.7	6.3	5.4	4.7	4.2	5.31	0.63
	80 P					18.9	14.3	14.3	12.6	10.7	9.4	8.3		
	105 P					33.4	27.8	27.4	21.8	18.6	16.3	14.4		
	130 P					94.2	81.2	80.2	63.7	54.4	47.6	42.0		
	65 P	60	120	60	120	8.7	6.5	6.5	5.2	4.4	3.9	3.4	5.53	0.49
	80 P					18.9	13.8	13.0	10.3	8.8	7.7	6.8		
	105 P					33.4	26.9	22.6	17.9	15.3	13.4	11.8		
	130 P					94.2	78.6	65.9	52.4	44.8	39.2	34.5		
	65 P	60	240	60	0	8.7	6.4	6.3	5.1	4.4	3.8	3.4	5.31	0.47
	80 P					18.9	13.5	12.8	10.1	8.7	7.6	6.7		
	105 P					33.4	26.3	22.2	17.6	15.1	13.2	11.6		
	130 P					94.2	77.1	64.9	51.6	44.1	38.5	34.0		
	65 P	75	105	75	105	8.7	6.4	5.9	4.7	4.0	3.5	3.1	5.53	0.39
	80 P					18.9	13.6	11.8	9.4	8.0	7.0	6.2		
	105 P					33.4	25.4	20.5	16.3	13.9	12.2	10.7		
	130 P					94.2	74.3	60.0	17.7	40.7	35.6	31.4		
	65 P	75	210	75	0	8.7	6.1	5.8	4.6	3.9	3.4	3.0	5.31	0.38
	80 P					18.9	13.1	11.6	9.2	7.9	6.9	6.1		
	105 P					33.4	24.8	20.1	15.9	13.6	11.9	10.5		
	130 P					94.2	72.7	58.7	46.7	39.9	34.9	30.8		
	65 P	90	90	90	90	8.7	6.4	5.5	4.4	3.8	3.3	2.9	5.53	0.33
	80 P					18.9	13.5	11.1	8.8	7.6	6.6	5.8		
	105 P					33.4	23.4	18.9	15.0	12.9	11.2	9.9		
	130 P					94.2	68.7	55.5	44.1	37.7	32.9	29.1		
	65 P	90	180	90	0	8.7	6.0	5.4	4.3	3.7	3.2	2.8	5.31	0.32
	80 P					18.9	12.7	10.9	8.6	7.4	6.5	5.7		
	105 P					33.4	23.0	18.5	14.7	12.6	11.0	9.7		
	130 P					94.2	67.3	54.3	43.2	36.9	32.3	28.5		
	65 P	120	60	120	60	8.7	6.3	5.1	4.0	3.4	3.0	2.7	5.53	0.25
	80 P					18.9	12.7	10.3	8.2	7.0	6.1	5.4		
	105 P					33.4	21.0	16.9	13.5	11.5	10.1	8.9		
	130 P					94.2	61.4	49.6	39.4	33.7	29.4	26.0		
	65 P	120	120	120	0	8.7	5.8	4.9	3.9	3.4	2.9	2.6	5.31	0.24
	80 P					18.9	12.3	10.0	7.9	6.8	5.9	5.2		
	105 P					33.4	20.6	16.6	13.2	11.3	9.9	8.7		
	130 P					94.2	60.2	48.6	38.6	33.0	28.9	25.5		
	65 P	150	30	150	30	8.7	5.9	4.8	3.8	3.2	2.8	2.5	5.53	0.20
	80 P					18.9	12.0	9.7	7.7	6.6	5.8	5.1		
	105 P					33.4	19.2	15.7	12.5	10.7	9.3	8.2		
	130 P					94.2	56.6	45.7	36.3	31.0	17.1	23.9		
	65 P	150	60	150	0	8.7	5.7	4.6	3.7	3.1	2.7	2.4	5.31	0.19
	80 P					18.9	11.5	9.3	7.4	6.3	5.5	4.9		
	105 P					33.4	19.0	15.4	12.2	10.4	9.1	8.1		
	130 P					94.2	55.4	44.7	35.5	30.4	26.5	23.4		
	65 P	180	0	180	0	8.7	5.6	4.5	3.6	3.1	2.7	2.4	5.53	0.16
	80 P					18.9	11.4	9.2	7.4	6.3	5.5	4.8		
	105 P					33.4	18.3	14.8	11.7	10.0	8.8	7.7		
	130 P					94.2	53.1	42.9	34.1	2.1	25.4	22.4		

CF3 OSCILLATING DRIVE

SPECIFICATIONS

| Angular stroke H°[deg]	Dimens. series	PERIODS T°[deg] OF CYCLE				Static torque Ms [daN m]	Dynamic output torque Mu [daN m]						Acceleration factor Ca	Input torque factor K
		A motion	B dwell	C motion	D dwell		R.P.M. 50	100	200	300	400	500		
45	65 P	60	120	60	120	8.3	6.6	6.6	6.4	6.0	5.6	4.9	5.53	0.74
	80 P					18	14.2	14.1	14.0	12.7	11.1	9.8		
	105 P					31.4	27.5	27.3	25.8	22.0	19.3	17.0		
	130 P					88.1	80.4	80.1	75.4	64.4	56.3	49.7		
	65 P	60	240	60	0	8.3	6.5	6.4	6.3	5.8	5.1	4.5	5.31	0.71
	80 P					18	13.8	13.7	13.2	11.7	10.2	9.0		
	105 P					31.4	26.8	26.5	23.7	20.2	17.7	15.6		
	130 P					88.1	78.5	77.7	69.3	59.2	51.8	45.7		
	65 P	75	105	75	105	8.3	6.5	6.5	5.9	5.1	4.4	3.9	5.53	0.59
	80 P					18	13.9	13.9	11.8	10.1	8.8	7.8		
	105 P					31.4	27.0	25.7	20.4	17.5	15.3	13.5		
	130 P					88.1	79.1	75.2	59.7	51.0	44.6	39.4		
	65 P	75	210	75	0	8.3	6.2	6.2	5.6	4.7	4.2	3.7	5.31	0.57
	80 P					18	13.2	13.1	11.2	9.5	8.3	7.4		
	105 P					31.4	25.7	24.1	19.2	16.4	14.3	12.6		
	130 P					88.1	75.4	70.5	56.0	47.9	41.9	36.9		
	65 P	90	90	90	90	8.3	6.4	6.4	5.3	4.5	3.9	3.5	5.53	0.49
	80 P					18	13.7	13.4	10.7	9.1	8.0	7.0		
	105 P					31.4	26.7	22.5	17.9	15.3	13.4	11.8		
	130 P					88.1	78.2	65.6	52.2	44.6	39.0	34.4		
	65 P	90	180	90	0	8.3	6.1	6.0	5.1	4.4	3.8	3.4	5.31	0.47
	80 P					18	12.9	12.8	10.3	8.8	7.7	6.8		
	105 P					31.4	25.1	22.0	17.5	14.9	13.1	11.5		
	130 P					88.1	73.4	64.1	50.9	43.5	38.0	33.6		
	65 P	120	60	120	60	8.3	6.4	6.1	4.9	4.2	3.6	3.2	5.53	0.37
	80 P					18	13.5	12.4	9.9	8.4	7.4	6.5		
	105 P					31.4	25.1	20.2	16.1	13.7	12.0	10.6		
	130 P					88.1	72.3	58.4	46.4	39.7	34.7	30.6		
	65 P	120	120	120	0	8.3	5.9	5.8	4.7	4.0	3.5	3.1	5.31	0.36
	80 P					18	12.5	11.9	9.5	8.1	7.1	6.2		
	105 P					31.4	24.4	19.8	15.7	13.4	11.7	10.4		
	130 P					88.1	71.0	57.4	45.6	39.0	34.1	30.1		
	65 P	150	30	150	30	8.3	6.3	5.8	4.6	3.9	3.4	3.0	5.53	0.30
	80 P					18	13.4	11.7	9.3	8.0	7.0	6.2		
	105 P					31.4	23.4	18.9	15.0	12.8	11.2	9.9		
	130 P					88.1	67.2	54.3	43.2	36.9	32.2	28.5		
	65 P	150	60	150	0	8.3	5.8	5.5	4.4	3.7	3.3	2.9	5.31	0.28
	80 P					18	12.2	11.1	8.8	7.5	6.6	5.8		
	105 P					31.4	22.7	18.3	14.6	12.4	10.9	9.6		
	130 P					88.1	65.5	52.9	42.0	35.9	31.4	27.7		
	65 P	180	0	180	0	8.3	6.3	5.5	4.4	3.7	3.3	2.0	5.53	0.25
	80 P					18	13.3	11.2	8.9	7.6	6.6	5.8		
	105 P					31.4	22.2	17.9	14.2	12.2	10.6	9.4		
	130 P					88.1	63.3	51.2	40.7	34.7	30.4	26.8		

OTHER SPECIAL MOVEMENT WILL BE SUPPLIED ON REQUEST

ASSEMBLY

The CF3 OSCILLATING DRIVES can be assembled on four different ways, regardless of the mounting position.
The type of assembly depends on the direction of rotation of the motion input and output shafts.
If the CF3 OSCILLATING DRIVE is viewed from the output shaft side, "Side B", it can be seen that:

1. The input shaft can rotate clockwise, in wich case it is marked "D", or anti-clockwise, in which case it is marked "S".
2. If motion period "A" only is considered, the output shaft can rotate clockwise, and is marked "D" , or anti-clockwise, and is marked "S".
Motion period "C" always rotates in the opposite output direction to

period "A".
Four assembly possibilities of the CF3 OSCILLATING DRIVE result from the combination of directions of rotation of the two motion input and output shafts, the same being shown in the figures below. Unless otherwise specified, the CF3 OSCILLATING DRIVE will be supplied with assembly "DS".

DD

SD

DS

SS
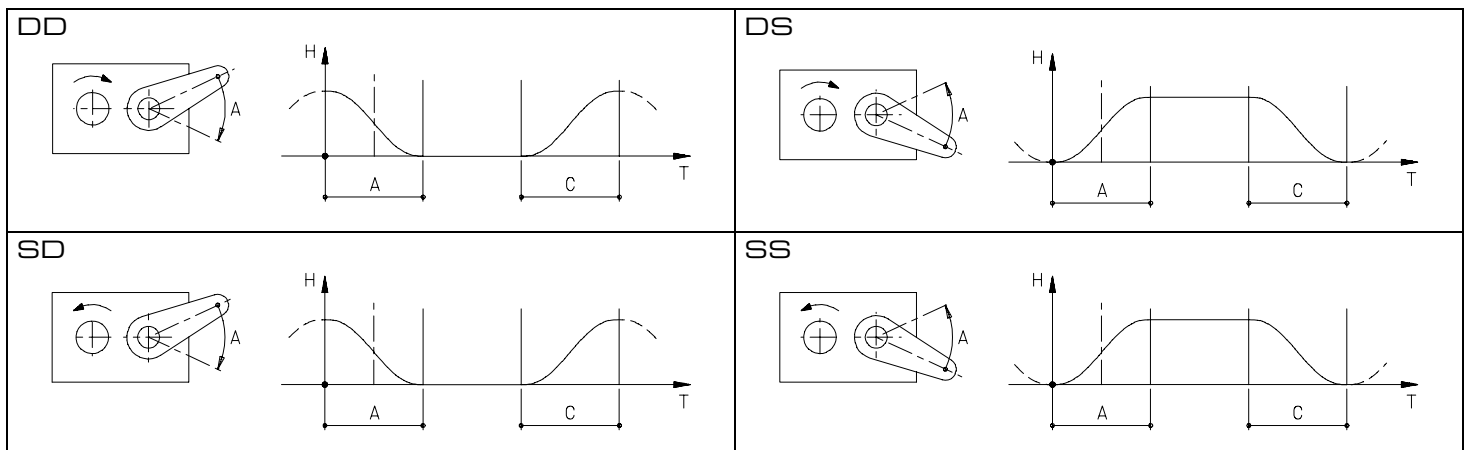
VERSIONS

The CF3 OSCILLATING DRIVES normally supplied in the following versions.

For further information regarding motor drive systems, please contact our technical staff.

VGS drive components

VS standard units

VL units with optional input

VR standard + reducer

VRP standard + reducer with flange

VRM standard + motor and reducer
VRA with brake motor
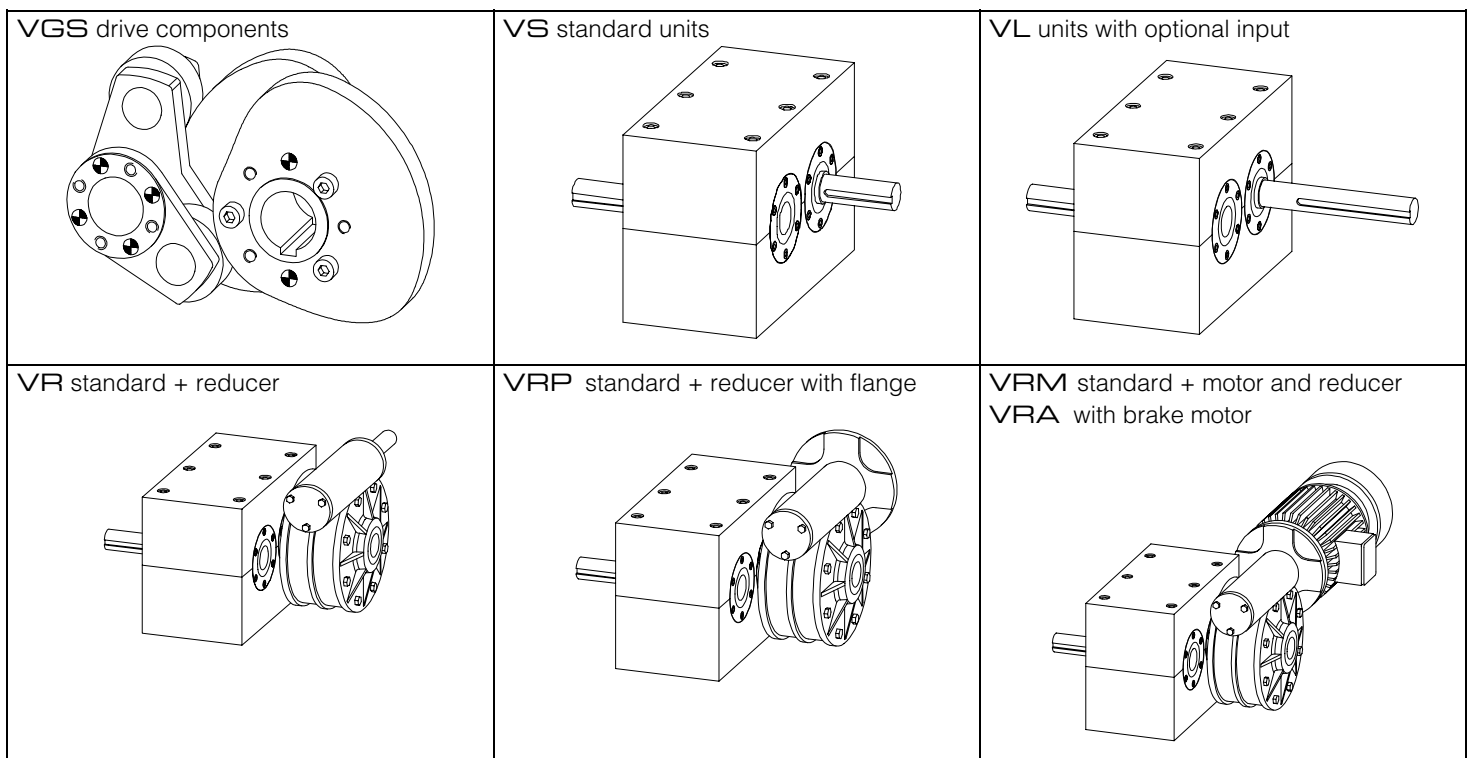
DRIVE COMPONENTS
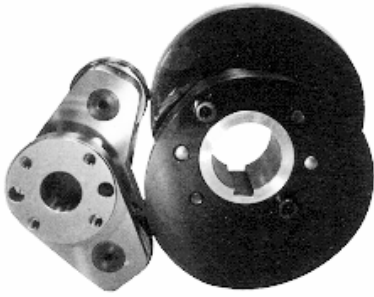
- Parallel shaft
- Separate and pre-coupled cam/follower units
- Cam hub with hollow shaft and keyway
- High-strength alloy steel cams with hardened , ground contours
- Follower hub with central through hole and flange mount on both sides.
- High load capacity with special yoke-mounted cam followers.

Fig.2
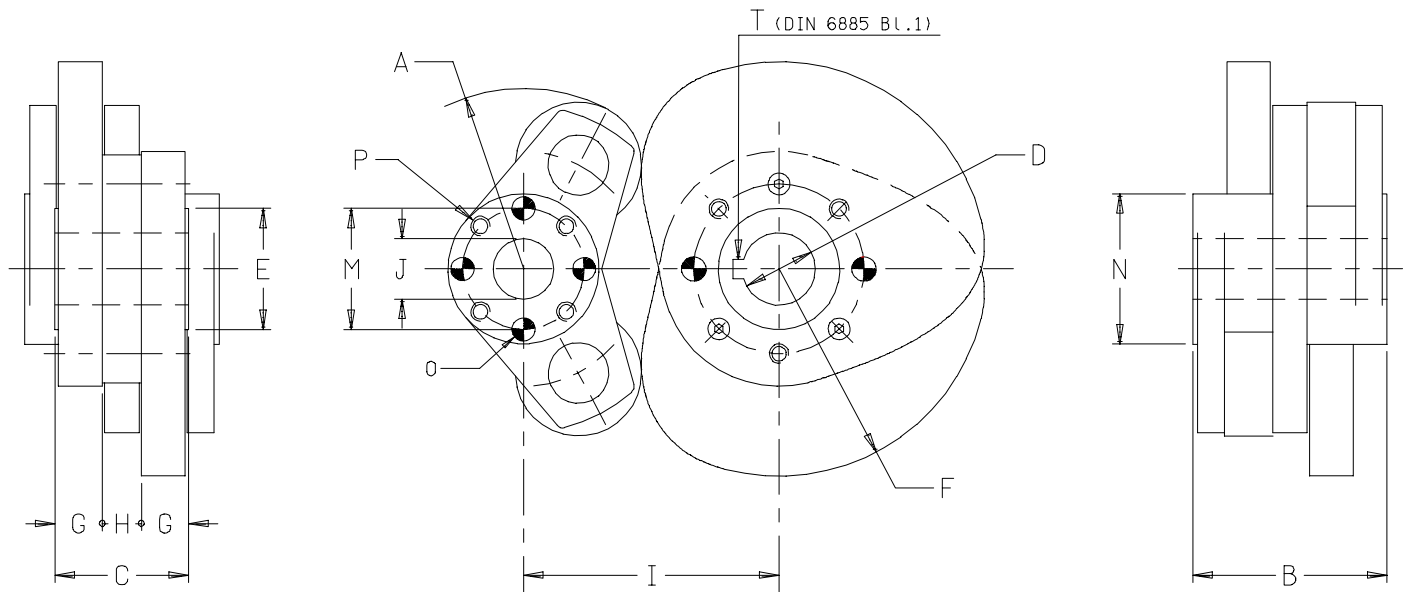
Series	A	B	C	D^H7	E^h6	F max.	G	H	I	J^H7	M	N	O	P	T
65 P	45	44	30	18	30	55	9	10	65	13	25	34	5.5x4.5	M5x4.5	6x6
80 P	57	60	42	28	40	66.5	13	13	80	18	36	46	7.5x9	M6x9	8x7
105 P	74.5	8	55	35	50	85.5	18	16	105	25	50	62	9.5x12	M8x12	10x8
130 P	91	100	66	50	70	106	22	20	130	30	65	79	11.5x16	M10x16	14x9

Notes

- Reversal of the direction of rotation of the input shaft also reverses the chronological sequence of the cycle periods. This is equivalent to crossing the Timing diagram from right to left.
- Keyway "T" of the cam hub is positioned halfway along indexing period "A".

- The two holes for dowel "O" and the four threaded holes "P" are drilled on doth sides of the output shaft. The dimensions of hole "O" shown in the table are such as to allow simultaneous boring with the part to be splined at the mounting stage. These holes are located in the positions shown in the figure when the oscillating drive is halfway along angular stroke "H".

- Correct operation of the OSCILLATING DRIVE is guaranteed by three essential conditions:
  - Parallel shafts.
  - Possibility of pre-loading the followers in the cam dwell periods.
  - Suitable lubrication of mechanism.

HOUSED UNITS

- Prism-shaped cast iron sealed housing.
- Outer surfaces machined, with support on 6 sides
- Possibility of mounting housing in all positions
- Parallel shafts in input and output
- Roller bearing on opposite taper roller sgafts
- Oil-bath lubrication
- Worm gear reducer splined directly to housing

Fig. 3

★ VL version
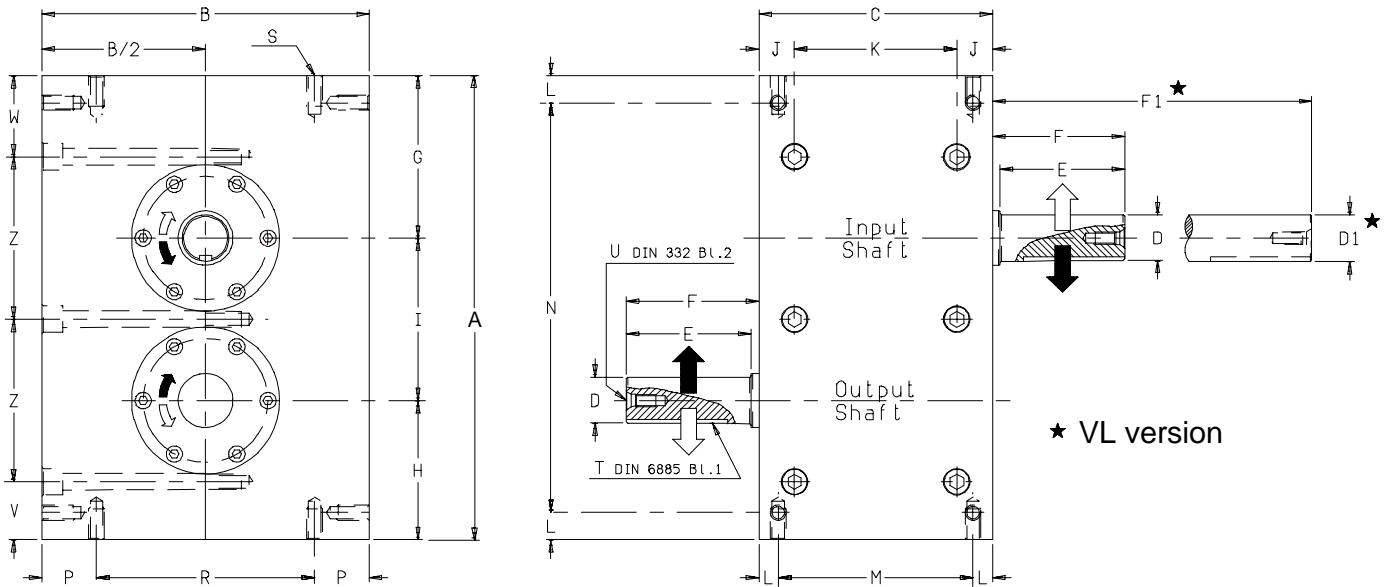
Notes

• Reversal of the direction of rotation of the inpt shaft also reverses the chronological sequence of the cycle periods. This is equivalent to crossing the Timing diagram from right to left.

• The input shaft keyway is in the position shown when the OSCILLATING DRIVE is halfway along motion period "A".

Series	A	B	C	D^{k6}	E	F	G	H	I	J	K	L	M	N
65 P	190	140	95	19	40	43	70	55	65	13	69	7,5	80	175
80 P	240	180	120	28	60	65	90	70	80	17	86	12,5	95	215
105 P	300	210	150	30	80	85	105	90	105	18	114	17,5	115	265
130 P	370	260	180	42	110	115	130	110	130	18	144	18	144	334

Series	P	R	S	T	U	V	Z	W	D1h6	F1	Weight [Kg]
65 P	22,5	95	M6x12	6x6x35	M6x16	22,5	65	38	18	102	12,5
80 P	30	120	M8x15	8x7x55	M10x22	30	80	50	25	145	25
105 P	35	140	M10x20	8x7x75	M10x22	37,5	105	53	35	180	45
130 P	40	180	M12x25	12x8x10	M16x36	45	130	65	42	210	80

• The output shaft keyway is in the position shown when the OSCILLATING DRIVE is halfway along the angular transfer.

• The sides containing the input and output shafts can be drilled to a maximum depth of 20 mm. to eliminate the need for tie-bars linking the two halves of the housing.

• Housing mounting holes "S" are of standard manufacture.

• The oil inlet/inspection/outlet plugs are defined by the mounting position.

• Correct operation of the CF3 OSCILLATING DRIVE and high quality of motion are obtained by connecting the input and output shafts

of the OSCILLATING DRIVE rigidly to the machine. For this reason, flexible transmission parts or parts which would introduce backlash into the kinematic chain should not be used.

CF3 OSCILLATING DRIVE

MOUNTING POSITIONS

The characteristic shape of the housing and the fully machined external surface and seal enable the CF3 OSCILLATING DRIVE to be mounted in all positions. In OSCILLATING DRIVES operating at low and medium speeds ≤150 [RPM] lubrication for life is used. The housing Is supplied without oil level window or drain plugs, ready filled with the right amount of lubricant, requires no maintenance, and offers highly flexible mounting. The identification number of these OSCILLATING DRIVES comprises the code plus indication of the positions of the input and output shafts.

In OSCILLATING DRIVES operating at medium and high speeds (>150 RPM), the oil should be changed at intervals. The housings are supplied complete with oil inlet/inspection-/outlet plugs and are delivered without lubricant; it is therefore up to the client to fill the housing with the correct amount of oil prior to start-up. The recommended lubricant is AGIP BLASIA 150 oil. The identification number of these OSCILLATING DRIVES requires a full description of the mounting position with the aid of the chart shown in fig.4.

The oil plugs, when necessary,are positioned diagonally on one of the lateral sides (C,D,E or F) of the housing.

Positions of the oil and mounting holes in the housing other than those illustrated in this catalogue are optional, and must be requested specifically by the client, accompanied by a diagram showing all measurements.

If the order does not contain the identification number of the mounting positions, the housed OSCILLATING DRIVE will be supplied with lubrification for life and shafts in positions 1A and 2B.

Fig.3

		A	B	C	D	E	F
side with input shaft	1	⊠	⊠	▨	▨	▨	▨
side with output shaft	2	⊠	⊠	▨	▨	▨	▨
side with mounting hole	3	○	○	⊠	⊠	⊠	⊠
side with oil plugs	4	○	○	⊠	⊠	⊠	⊠
lower side after mounting	5	⊠	⊠	⊠	⊠	⊠	⊠

⊠ Standard position   ○ Possible position   ▨ Impossible position
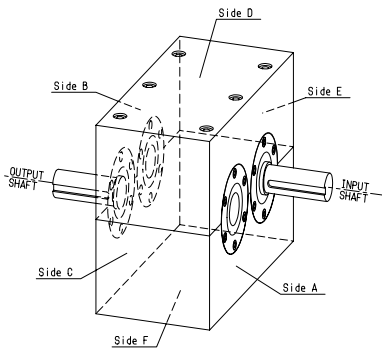
IDENTIFICATION NUMBER

The identification number of the OSCILLATING DRIVES is made up in accordance with the chart. The mounting positions in versions VR, VRP , VRM and VRA , is specified in the paragraph "REDUCER MOUNTING POSSIBILITIES"

Example										
CF3 OSCILLATING DRIVE	H15	165P	30/150/30/150	DS	VS	1A	2B	3F	4C	5F

angular stroke
dimensional series
cycle periods
assembly
version
side with input shaft
side with output shaft
side with mounting holes
side with oil plugs
lower side after mounting

REDUCER MOUNTING POSSIBILITIES

The CF3 OSCILLATING DRIVES in versions VR, VRP, VRM and VRA are fitted with worm gear speed reducers suitably selected and splined directly to the input shaft. This system presents a combination of rigid power trabsmission and a very compact motor- driven OSCILLATING DRIVE unit.

The range of reduction ratios available produces speeds of between 14 and 200 RPM, thereby meeting the majority of application requirements.

The CF3 OSCILLATING DRIVE designed for the worm gear reducer to be splined on, is the VL long-shaft version.

The reducer can be mounted on the housing of the CF3 OSCILLATING DRIVE in any of the 8 standard positions shown alongside.

On placing the order, it is necessary to specify, in addition to the reducer mounting position, full details of the type of motor drive required, namely:

- reduction ratio worm gear reducer or number of RPM to be performed by the OSCILLATING DRIVE
- dimensions ISO of the flange when the OSCILLATING DRIVE/REDU-CER unit is ordered without motor, but is to be constructed in such a way that a motor can be fitted
- details of motor: hp, polarity, voltage, frequency etc.

The CF3 OSCILLATING DRIVES allow various alternative types of motor assembly to be fitted in addition to those described in this catalogue, such as speed variator or brake/clutch units etc.

If you shoud require any further information, please do not hesitate to contact us; we shall be pleased to discuss the best way of dealing with your particular requirements.
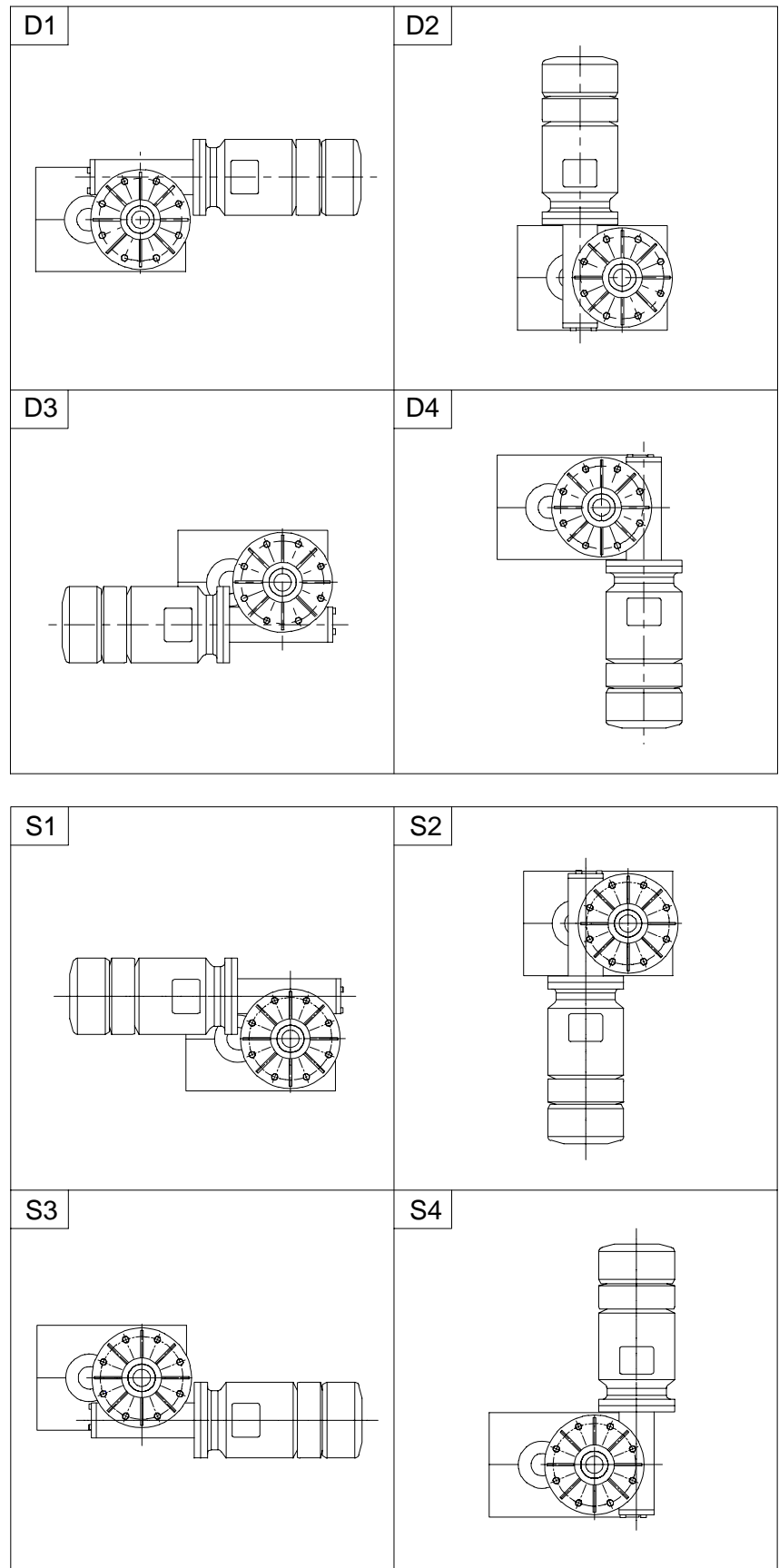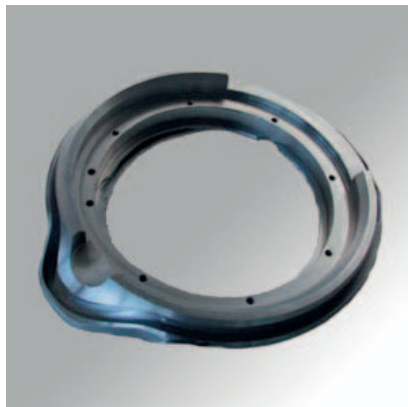
Products

Cam Mechanisms and special products

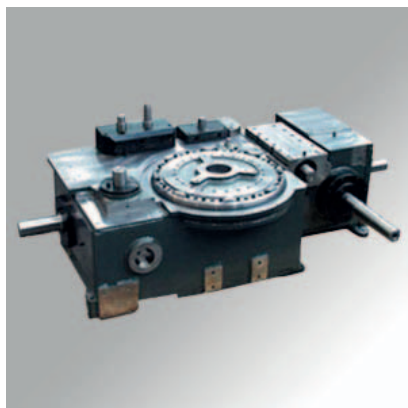Compact double spherical cam mechanism for mechanical automation

Combination of flat cam and globoidal profiled cam

Barrell shaped cam

Globoidal cam mechanism with four synchronized intermittent movements. Bilateral outputs.

Mechanism with different cams producing seven synchronized intermittent and oscillating movements in output

Parallel shaft mechanism with flat cam

Flat cam with conjugate profiles

... the culture of precision

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