Series 1330 - 1331 - 1332 - 1333, rotary actuators

Construction characteristics

Central body	oxidised aluminium
Cushion bushings	hardened aluminium
Barrel	anodised aluminium Ra=0.3-0.5
Rack	C43
Rotating angle adjustment assy	brass
Seals	NBR 80 shore rubber
Plain bearing guide	acetal resin
Pinion	18 NiCrMo4 cemented and tempered
Pistons	vulcanized rubber block on steel core with incorporated permanent magnet or without magnet plus rear spacer for non magnetic version
End caps	UNI 5079 aluminium alloy casting
Cushion adjustment screws	nickel plated steel

Operational characteristics

Fluid	filtered air, preferably lubricated
Pressure	10 bar
Working temperature	-5 °C ... +70 °C
Standard rotation	90° - 180° - 270° - 360°(+1°)
Rotating angle adjustment assy	±10° (±5° start position, ±5° end position)

Use and maintenance

Please follow the suggestions below to ensure a long life for these cylinders:
- use clean and lubricated air.
- correct alignment during assembly with regard to the applied load so as to avoid radial components or bending the rod.
- avoid high speeds together with long strokes and heavy loads: this would produce kinetic energy which the cylinder cannot absorb, especially if used as a limit stop (in this case use mechanical stop device).
- evaluate the environmental characteristics of cylinder used (high temperature, hard atmosphere, dust, humidity etc.).

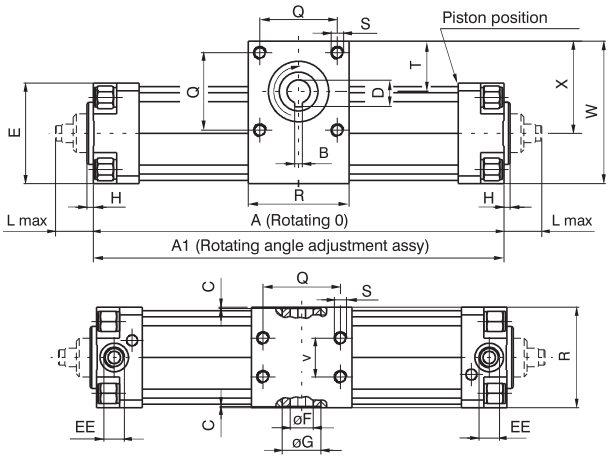
Please note: air must be dried for applications with lower temperature.
Use hydraulic oils H class (ISO VG32) for correct continued lubrication.

Bore	32	40	50	63	80	100
Torque moments Nm/bar	0,9	1,7	2,9	5,55	13,2	23,8
Axis load max. kg	8	10	10	12	18	22
Cushioning angle	60°	60°	50°	50°	40°	40°

Female pinion version

Coding: 133Ⓥ.Ø.ⒶⓇ

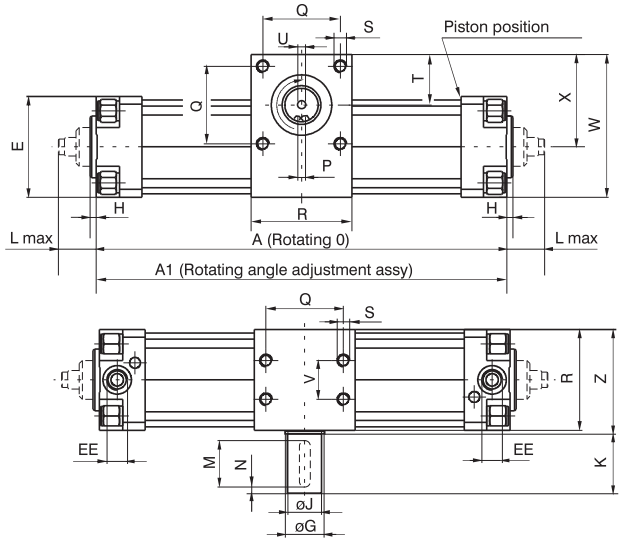
Ⓥ	VERSION
	0 = magnetic
	1 = non-magnetic
Ø	BORE
	32 = Ø32
	40 = Ø40
	50 = Ø50
	63 = Ø63
	80 = Ø80
	100 = Ø100
Ⓐ	ROTATING ANGLE
	90 = 90°
	180 = 180°
	270 = 270°
	360 = 360°
Ⓡ	STANDARD ROTATION
	01 = basic version
	01R = with rotating adjustment



Male pinion version

Coding: 133Ⓥ.Ø.ⒶⓇ

Ⓥ	VERSION
	2 = magnetic
	3 = non-magnetic
Ø	BORE
	32 = Ø32
	40 = Ø40
	50 = Ø50
	63 = Ø63
	80 = Ø80
	100 = Ø100
Ⓐ	ROTATING ANGLE
	90 = 90°
	180 = 180°
	270 = 270°
	360 = 360°
Ⓡ	STANDARD ROTATION
	01 = basic version
	01R = with rotating adjustment



Dimensions

Bore		32	40	50	63	80	100
A rot. 0°		171	195	202	233	268	300
A rot. 90°		218	252	265	308	378	427
A rot. 180°		265	308	328	382	488	555
A rot. 270°		312	364	390	457	598	682
A rot. 360°		359	421	453	531	708	809
A1 rot. 0°		174	198	206	237	274	307
A1 rot. 90°		221	255	269	312	384	434
A1 rot. 180°		268	311	332	386	494	562
A1 rot. 270°		315	367	394	461	604	689
A1 rot. 360°		362	424	457	535	714	816
B		5	5	5	6	6	8
C		1	1	1	1	1	1
D		17,3	17,3	17,3	20,8	22,8	28,3
E		46	52	65	75	95	115
Ø F (H 7)		15	15	15	18	20	25
Ø G		25	25	25	30	40	55
H		4	4	4	4	4	4
Ø J (h 7)		14	14	22	25	30	35
K		30	30	40	40	50	50
L max.		23	23	28,5	28,5	34,5	34,5
M		25	25	35	35	45	45
N		2,5	2,5	2,5	2,5	2,5	2,5
P		5	5	6	8	8	10
Q		33	40	50	60	80	80
R		50	60	65	75	100	115
S		M6	M6	M8	M8	M10	M10
T		27,5	35	32,5	35,5	50	54,5
U		M5	M5	M6	M8	M8	M10
V		18	22	25	35	50	60
W		71	85	92	105	141	162
X		48	59	59,5	67,5	93,5	104,5
Z		51	61	66	76	101	116
EE		G 1/8"	G 1/4"	G 1/4"	G 3/8"	G 3/8"	G 1/2"
Piston stroke every 10° of rotation		2,61	3,14	3,49	4,14	6,11	7,07
Female Pinion weight (g)	rot. 90°	1450	2020	3050	4850	10000	14900
	rot. 180°	1600	2240	3350	5350	11000	16350
	rot. 270°	1750	2460	3650	5850	12000	17800
	rot. 360°	1900	2680	3950	6350	13000	19250
Male Pinion weight (g)	rot. 90°	1550	2150	3280	5150	10500	15700
	rot. 180°	1700	2370	3580	5650	11500	17150
	rot. 270°	1850	2590	3880	6150	12500	18600
	rot. 360°	2000	2810	4180	6650	13500	20050