

AD Speed Reducer

onvio



NEW Onvio AD Reducer

Onvio's revolutionary, modular approach to gearbox design has resulted in our NEW AD planetary reducer. The new series features our highest precision gearing in a sleek, steel housing that offers drop in dimensions for many of today's brands. In addition, we offer backlash as low as 3 arc-minutes making the AD series ideal for today's high dynamic servo applications.

PRECISE

- Low Backlash
- High Shock Load Capacity
- Exceptional Torsional Stiffness
- Rigid Bearing Construction
- Smooth, Quiet Operation

INTELLIGENT

- Slotted Interface Offers Quick and Easy Installation to Any Servo Motor
- Single or Two Stages of gearing offers a wide range of ratios
- Highest Degree of Exchangeability with Other Reducers
- Add a Right Angle or Belt Stage With Four Bolts!

DYNAMIC

- Hardened, Ground Gears
- Low Inertia
- High Safety Factor
- Input Speeds to 6000 rpm
- Housing can be Made of Steel, Aluminum, or Stainless Steel

Size	U/M	AD-010		AD-020		AD-030		
		Rated Peak TN	Rated Peak TP	Rated Peak TN	Rated Peak TP	Rated Peak TN	Rated Peak TP	
Output Torque	1 stage	Ratio 4	30	60	96	192	192	384
		5	27	54	90	180	200	400
		7	32	64	70	140	175	350
		9	20	40	72	144	117	234
	2 stage	16	31	62	96	192	192	384
		20	27	54	100	200	200	400
		28	32	64	70	140	175	350
		36	19	38	67	135	117	234
		40	30	60	96	192	192	384
		50	27	54	100	200	200	4000
		70	31	62	70	140	175	350
		90	19	38	67	135	117	234
Backlash	j t arc min	1 stage	Standard ≤ 6		Reduced ≤ 3			
		2 stage	Standard ≤ 8		Reduced ≤ 5			
Continuous Input Speed	n1cont	RPM	3000		3000		3000	
Maximum Input Speed	n1max	RPM	6000		6000		6000	
Maximum Radial Load	Fr 2 max	N	1100		1500		4400	
Maximum Axial Load	Fa 2 max	N	550		750		2200	
Efficiency	η	%	1 stage	96				
			2 stage	94				
Temperature Range		°C	-10°C to 90°C					
Noise (Measured @ 3000 rpm)		dB(A)	≤ 69					
Life	Lh	h	>15,000					
Lubrication			Grease		Oil			
Orientation			Any					

About Onvio

Onvio headquarters are located in Salem, NH in a new 45,000 square foot world-class manufacturing facility. With additional manufacturing in Puebla, Mexico and operations in Germany, we stand ready to serve our customers globally, with the right product—on time. You can count on it.

Visit www.onviollc.com to download 2D or 3D drawing files.

Planetary Reducer

AD

Universal Mount

AD offers interchangeability to many brands

High Torsional Stiffness

Contact of three planetary gears in the steel crown gear along with a large diameter output, provide outstanding rigidity

High Capacity Output Bearings

Two output bearings, located forward in the gearbox result in higher bearing capacity and longer bearing life

Low Backlash

Hardened, ground gears guarantee low backlash — down to 3 arc minutes

Universal Servo Interface

Flexible slotted bolt circle and oversized pilot allow for easy motor installation and no adapters

Floating pilot and high capacity input bearings guarantee alignment between motor and gearbox



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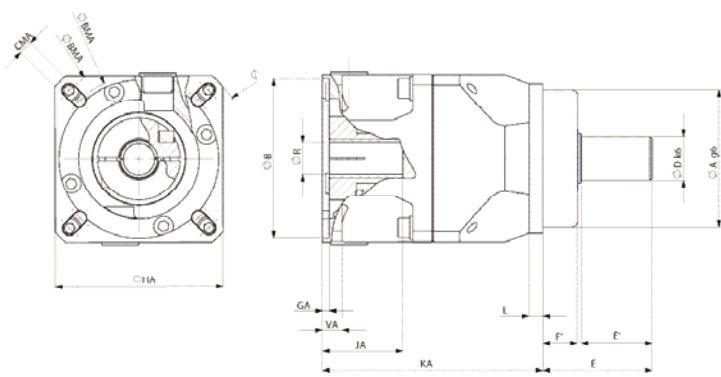
Planetary Reducer

onvio AD

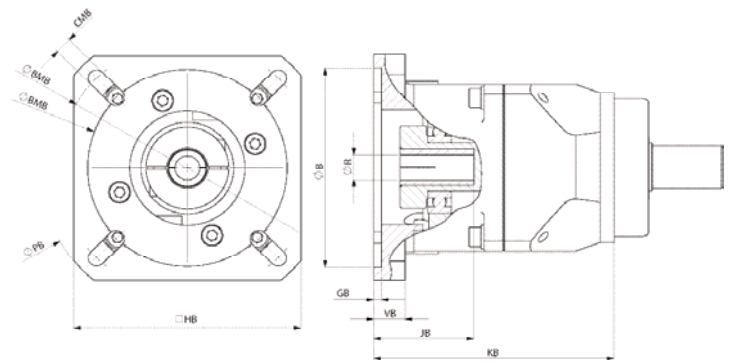


AD Ratings

Size	U/M	AD-010		AD-020		AD-030		AD-040		AD-050			
		Rated TN	Peak TP	Rated TN	Peak TP	Rated TN	Peak TP	Rated TN	Peak TP	Rated TN	Peak TP		
Output Torque	Nm	1 stage	Ratio 4	30	60	96	192	192	384	360	720	720	1440
			5	27	54	90	180	200	400	360	720	750	1500
		7	32	64	70	140	175	350	360	720	750	1500	
		9	20	40	72	144	117	234	-	-	-	-	
		10	-	-	-	-	-	-	300	600	650	1300	
		2 stage	16	31	62	96	192	192	384	360	720	720	1440
			20	27	54	100	200	200	400	360	720	750	1500
			28	32	64	70	140	175	350	360	720	750	1500
			36	19	38	67	135	117	234	-	-	-	-
			40	30	60	96	192	192	384	360	720	720	1440
			50	27	54	100	200	200	400	360	720	750	1500
			70	31	62	70	140	175	350	360	720	750	1500
			90	19	38	67	135	117	234	-	-	-	-
		100	-	-	-	-	-	-	300	600	650	1300	
Backlash	j t	arc min	1 stage	Reduced ≤ 3				Standard ≤ 6					
			2 stage	Reduced ≤ 5				Standard ≤ 8					
Continuous Input Speed	n1cont	RPM	3000		3000		3000		2500		2500		
Maximum Input Speed	n1max	RPM	6000		6000		6000		4000		4000		
Maximum Radial Load	Fr 2 max	N	1100		1500		4400		6900		11000		
Maximum Axial Load	Fa 2 max	N	550		750		2200		3450		5500		
Efficiency	η	%	1 stage	96									
			2 stage	94									
Input Inertia	J1	kgcm ²	1 stage	4	0.1058	0.4910	2.8631	8.2290	Consult Factory				
				5	0.0937	0.4470	2.6790	7.2196					
				7	0.0840	0.4153	2.5420	6.3714					
				9	0.0799	0.4021	2.4829	-					
				10	-	-	-	5.9346					
			2 stage	16	0.0886	0.4377	2.5743	7.1797	Consult Factory				
				20	0.0880	0.4350	2.5627	7.1166					
				28	0.0873	0.4330	2.5542	7.0636					
				36	0.0870	0.4322	2.5505	-					
				40	0.0721	0.3585	2.3670	5.7486					
				50	0.0720	0.3580	2.3651	5.7385					
				70	0.0719	0.3577	2.3638	5.7300					
				90	0.0718	0.3576	2.3632	-					
				100	-	-	-	5.7256					
Weight with Interface A / B	m	kg	1 stage	1.4	1.5	3.7	4.0	9.0	9.4	15.9	16.3	Consult Factory	
			2 stage	1.6	1.7	4.2	4.5	9.8	10.2	17.8	18.5		
Temperature Range	°C		-10°C to 90°C										
Noise (Measured @ 3000 rpm)	dB(A)		≤ 69										
Life	Lh	h	>15,000										
Lubrication	Grease						Oil						
Orientation	Any												



Motor Interface A



Motor Interface B

AD Dimensions (mm)

Size		AD-010	AD-020	AD-030	AD-040	AD-050
Square Flange	H'	62	76	101	142	190
Square Body	H	65	85	115	-	-
Pilot Ø	A g 6	60	70	90	130	160
Output Shaft Ø	D k 6	16	22	32	40	55
Mounting Bolt Circle	BG	68	85	120	165	215
Mounting Holes	CG 4 x 90°	5.5	6.6	9	11	13
Flange Thickness	L	6	7	10	18	22
Outside Ø	P	86	113	152	187	246
Length: Mounting Flange to Shaft End	E	48	55.5	88	112	112
Usable Shaft Length	E'	28	36	58	82	82
Shoulder Length	F'	18	17.5	27	27	27
Body Length with A Flange	KA	78.5	112	153.5	136.5	182
		-	-	-	187.5	242
Body Length with B Flange	KB	81	122	156.5	136.5	-
		-	-	-	187.5	-

Motor Interface Dimensions

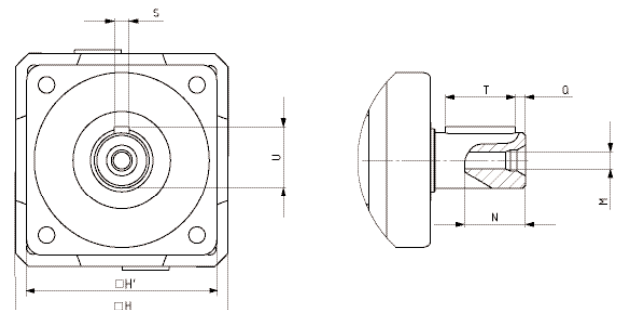
		A	B	A	B	A	B	A	B	A	B
Maximum Motor Pilot Ø	B	61	81	81	101	111	131	131	181	181	-
Maximum Pilot Length	G	3	3.5	3.5	4	4	4	5	5.5	6	-
Square Flange	HA / HB	65	85	85	115	115	142	142	190	190	-
Motor Bolt Circle Range	BM	63 - 75	85 - 100	85 - 100	115 - 130	115 - 130	145 - 165	145 - 165	200 - 215	200 - 215	-
Mounting Holes	CM	5.5	6.5	6.6	8.5	8.5	11	11	13	13	-
Flange Thickness	V	7	10.5	10	16	12	15	15	18	20	-
Flange Ø	P	86	114	113	149	152	188	187	246	246	-
Maximum Motor Shaft Length	J	32	35	40	50	50	53	60	60	80	-
Maximum Motor Shaft Ø	R F 7	14*		19*		24*		32*		38*	

* Larger diameter available on request

Dimensions subject to change without notification

AD Output Shaft Keyway Dimensions

		AD-010	AD-020	AD-030	AD-040	AD-050
Key Width	S h 9	5	6	10	12	16
Key Length	T	22	28	45	70	70
Key Position	Q	3	4	6	5	6
Key Height	U	18	24.5	35	43	59
Thread Size	M	M5	M8	M12	M16	M20
Thread Depth	N	12.5	19	28	36	42



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