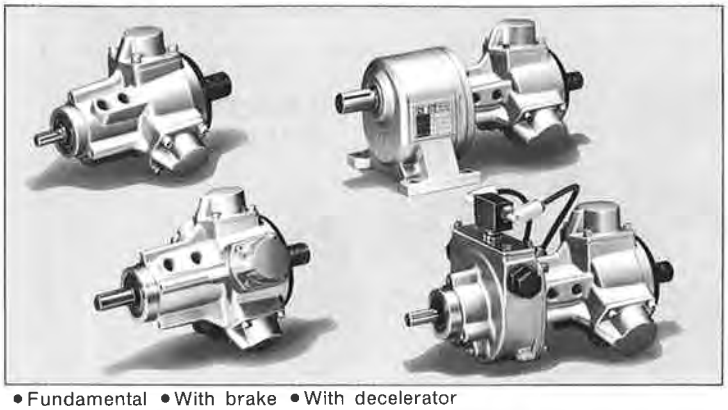
TAM4 RADIAL PISTON TYPE AIR MOTOR



● Fundamental ● With brake ● With decelerator

Air motor with free mounting direction because of grease-mounted system

- Small, lightweight.
- Mounting direction is free with grease-mounted system.
  (The oil lubrication with air lubricator is necessary.)
- With balancer structure contained, smooth working with little vibration is available.

SPECIFICATIONS

Model code \ Item		Type	Deceleration ratio	at Maximum output(0.5MPa) power W	Torque N·m	Rotation R.P.M.	Air consumption ℓ/min (ANR)	Stop torque N·m	Start torque N·m	Brake torque N·m	Allowable axial load KN Radial load	Thrust load	Weight kg Basic type	Flange type	Foot type
TAM 4 - 010	※	Fundamental	1/1	73.5	0.637	1100	200	1.18	0.686	—	0.098	0.059	1.45	1.5	2.1
	※G005	With decelerator	1/5	66.2	2.84	220		4.90	2.94		0.245	0.147	—	4.0	3.5
	※G010		1/10		5.69	110		9.81	5.88		0.539	0.245			
	※G015		1/15		8.53	73.3		15.7	8.83		0.785	0.343			
	※G020		1/20		11.5	55		20.6	11.8		1.08	0.441			
TAM 4 - 015	※	Fundamental	1/1	125	1.37	900	260	2.94	1.96	—	0.137	0.098	2.5	2.6	3.4
	※B	With brake								3.24			4.3	4.4	5.2
	※※G005	With decelerator With brake/ decelerator	1/5	110	5.88	180		12.7	8.83	14.7	0.392	0.245	—	6.7 (8.0)	6.2 (8.5)
	※※G010		1/10		11.8	90		26.5	17.7	29.4	0.785	0.343			
	※※G015		1/15		17.7	60		39.2	26.5	44.1	1.08	0.539			
	※※G020		1/20		23.5	45		53.0	35.3	58.8	1.37	0.686			
	※※G030		1/30	110	35.3	30		78.5	53.0	88.3	2.16	1.13		8.7 (10.0)	8.2 (10.5)
	※※G040		1/40		47.1	22.5		106	70.6	118	2.26	1.23			
	※※G050		1/50		58.8	18		132	79.4	147	2.35	1.32			
	※※G060		1/60		70.6	15		157	106	177	2.45	1.37			
	※※G080		1/80		93.2	11.2		206	139	235	2.55	1.47			
	※※G100		1/100	103	118	9		250	175	283	4.61	2.26		11.7 (13.0)	11.2 (13.5)
	※※G120		1/120		137	7.5		300	206	339	4.71	2.55			
	※※G160		1/160		176	5.6		373	261	453	5.00	2.84			
	※※G200		1/200		233	4.5		500	350	567	5.10	3.14			
TAM 4 - 030	※	Fundamental	1/1	228	2.94	750	400	5.88	4.71	—	0.196	0.137	4.6	4.8	6.4
	※B	With brake								6.47			7.6	7.8	9.4
	※※G005	With decelerator With brake/ decelerator	1/5	199	12.7	150		26.5	20.6	29.4	0.490	0.294	—	10.5 (13.5)	10.0 (13.0)
	※※G010		1/10		26.5	75		53.0	41.2	58.8	0.981	0.441			
	※※G015		1/15		39.2	50		79.4	61.8	88.3	1.37	0.637			
	※※G020		1/20		53.0	37.5		106	82.4	118	1.77	0.834			
	※※G030		1/30	199	78.5	25		159	124	177	3.97	1.42		14.0 (17.0)	13.5 (16.5)
	※※G040		1/40		106	18.7		212	165	235	4.17	1.57			
	※※G050		1/50		132	15		265	206	294	4.32	1.67			
	※※G060		1/60		157	12.5		318	247	353	4.41	1.81			
	※※G080		1/80		203	9.3		402	314	471	4.51	1.96			
	※※G100		1/100	191	250	7.5		490	392	549	6.47	2.55		20.5 (24.5)	20.0 (24.0)
	※※G120		1/120		300	6.2		598	471	657	6.62	2.75			
	※※G160		1/160		396	4.6		785	628	873	6.91	2.94			
	※※G200		1/200		500	3.7		981	785	1100	7.06	3.14			

Figure in parenthesis is the weight with brake/decelerator.

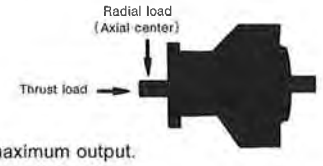
Note) • Make inquiries about larger deceleration ratio than 1/20 in TAM4-010 series.
• The above specifications indicate performance at ambient temperature of 20℃. The rotation will lower if the ambient temperature lowers due to the viscosity change of grease.
• Air motor performance values shown apply when the pressure on the exhaust side is atmospheric pressure.

COMMON ITEMS

- Working fluid : Air
- Operating pressure : 0.2~0.6MPa
- Lubrication : JIS K2213-1 (Natural turbine oil ISO VG32) or equivalent.
- Ambient temp. : −10~+70℃ (Use in unfrozen condition)
- Paint color : Metalic silver green
- Lubricating : Inside mounting grease --- Air motor body···Daphne Eponex No.1 grease for high load.
- Continuous use : In case of the continuous use without stop time, use with less than 80% of rotation at the maximum output.
- Range of recommended rotation=(0.2~1)×Rotation at maximum output.

ALLOWABLE AXIAL LOAD

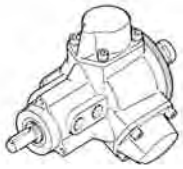
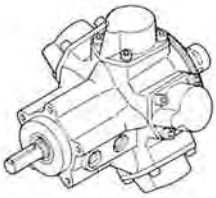
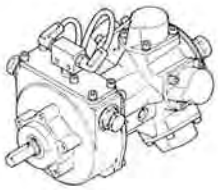
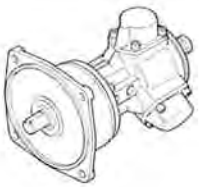
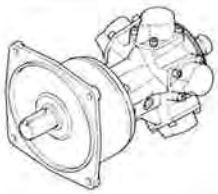
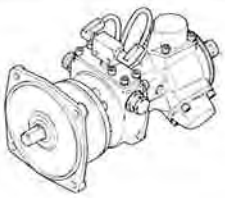
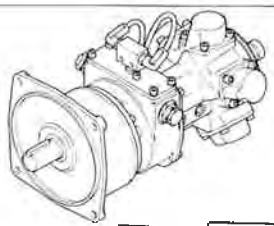
Allowable axial load in the above specifications indicates the allowable value of load in the drawing given below.



RADIAL PISTON TYPE AIR MOTOR TAM4

TYPE OUTLINE·CODE

For order, specify the following code

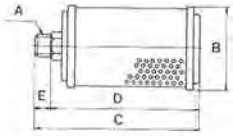
Series / Type	TAM4—010	TAM4—015	TAM4—030
Fundamental	 TAM4-010S ❶	 TAM4-015S ❶	 TAM4-030S ❶
With brake	—	 TAM4-015S B ❶ With brake	 TAM4-030S B ❶ With brake
With decelerator	 TAM4-010F G 020 ❶ With decelerator ❷ Mounting type S:Basic type is not available	 TAM4-015F G 020 ❶ With decelerator ❷ Mounting type S:Basic type is not available	 TAM4-030F G 020 ❶ With decelerator ❷ Mounting type S:Basic type is not available
With brake/decelerator	—	 TAM4-015F BG 020 ❶ With brake/decelerator ❷ Mounting type S:Basic type is not available	 TAM4-030F BG 020 ❶ With brake/decelerator ❷ Mounting type S:Basic type is not available

SYMBOL EXPLANATION

❶	Mounting type			
	S	Basic type		
	F	Flange type		
	L	Foot type		
❷	Deceleration ratio			
	005	1/5	060	1/60
	010	1/10	080	1/80
	015	1/15	100	1/100
	020	1/20	120	1/120
	030	1/30	160	1/160
	040	1/40	200	1/200
	050	1/50		

ACCESSORIES

- Auto-muffler
  The muffler weakens exhaust noise and does not harm the air motor performance



Unit : mm

Model code	A	B	C	D	E	Weight(kgf)	Exhaust area(mm²)
M02	R1/4	48	102	89	13	0.14	4580
M00	R3/8	67	121	108	13	0.23	7870

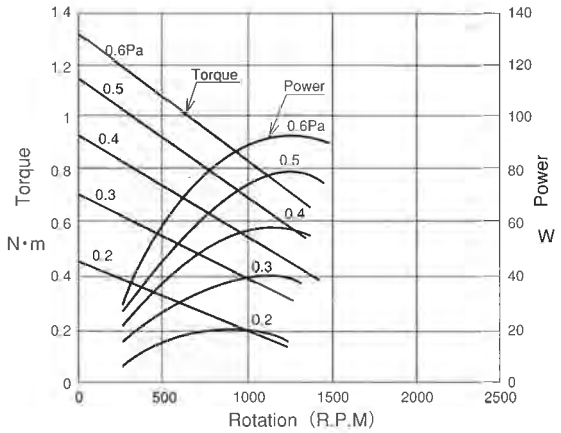
Note) • Make inquiries about larger deceleration ratio than 1/20 in TAM4-010 series
• Models for fundamental · with brake are delivered without assembling the mounting accessories and silencer
• Models with decelerator, brake/decelerator are mounted with mounting accessories But, silencer is delivered without assembling

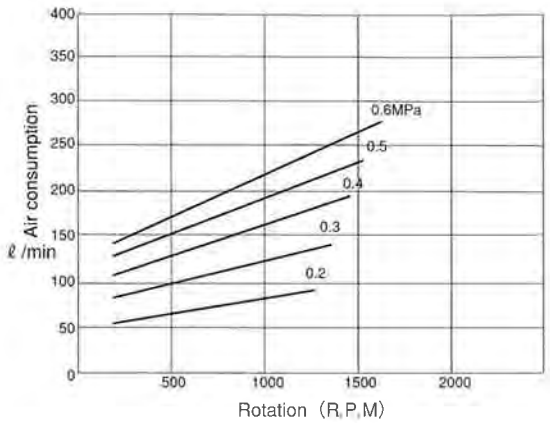
TAM4 RADIAL PISTON TYPE AIR MOTOR

PERFORMANCE CURVE (DECELERATION RATIO 1 : 1)

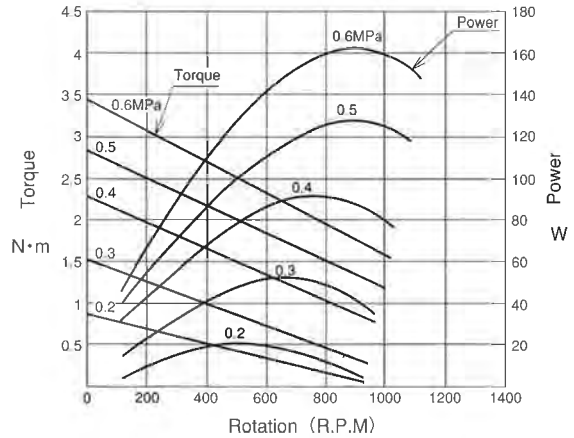
□ Range of Recommended rotation

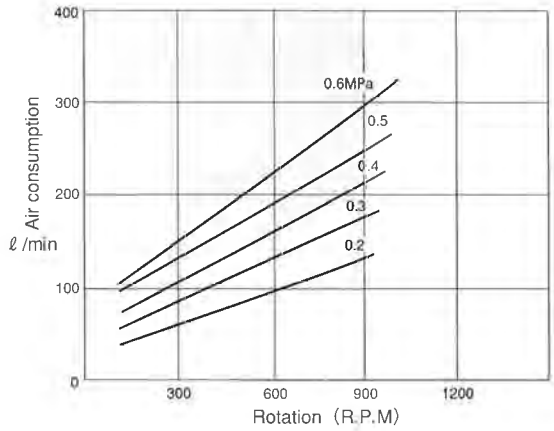
TAM4-010



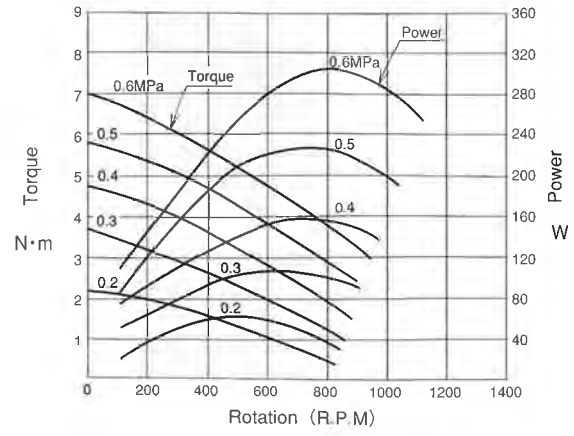


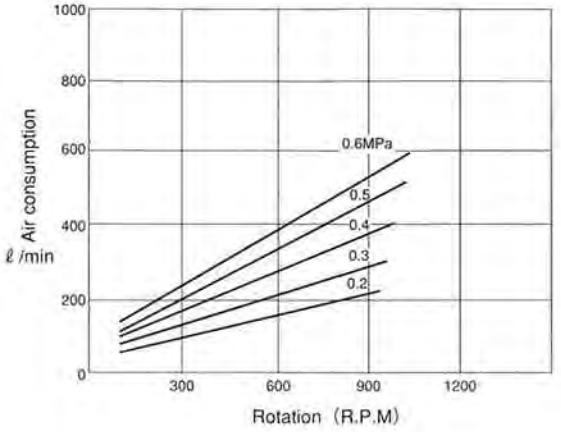
TAM4-015





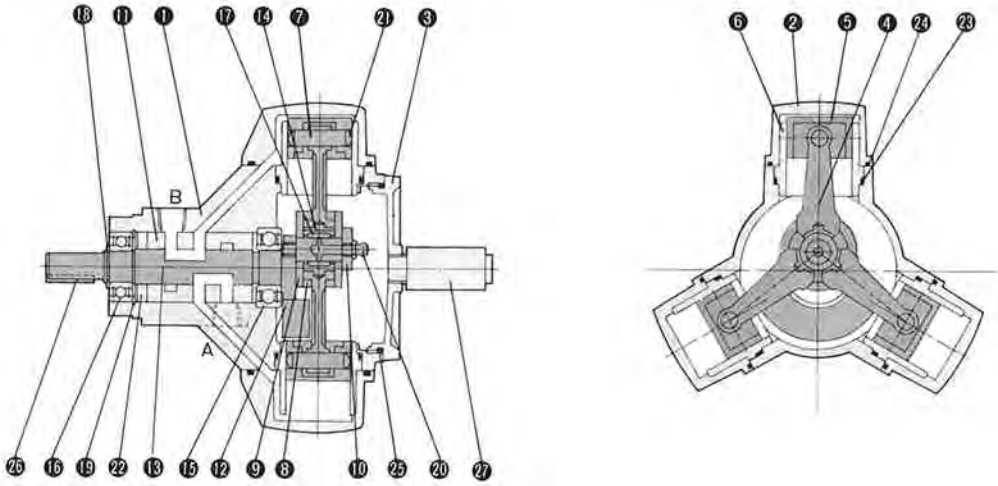
TAM4-030



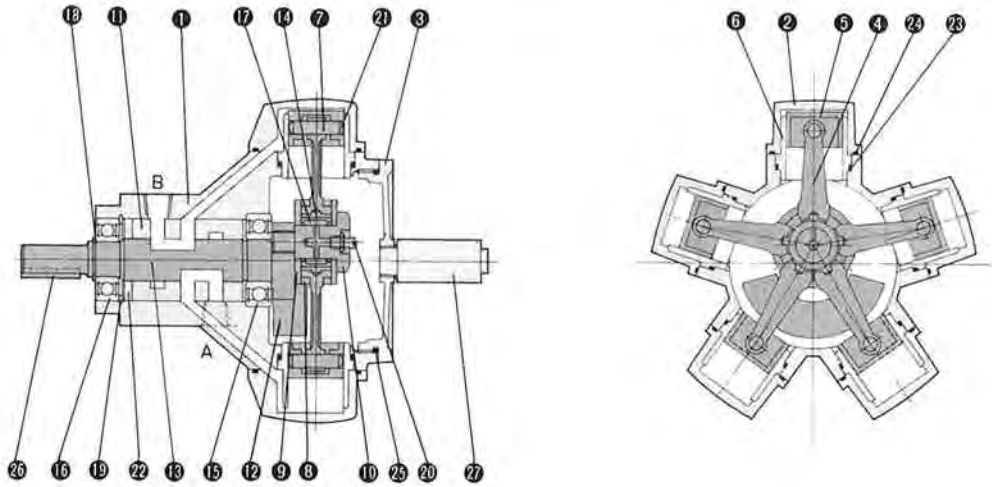


SECTIONAL DRAWINGS

TAM4-010·015



TAM4-030



The above drawings are the sectional drawings for fundamental.

PARTS LIST

No.	Name	Material	Q'ty
❶	Casing	Aluminum alloy casting	1
❷	Cylinder cover	Aluminum alloy die casting	3(5)
❸	End cover	Synthetic resin	1
❹	Connecting rod	Aluminum alloy die casting	3(5)
❺	Piston	Brass casting	3(5)
❻	Sleeve	Grey cast iron	3(5)
❼	Piston pin	Carbon tool steel	3(5)
❽	Ring	Carbon steel	2
❾	Thrust washer	Carbon steel	2
❿	Crank pin	Chromium-molybdenum steel	1
⓫	Valve bush	Grey cast iron	1
⓬	Balance weight	Carbon steel	1
⓭	Shaft	Chrome molybdenum steel	1
⓮	Liner	Synthetic resin	3(5)

No.	Name	Material	Q'ty
⓯	Bearing	—	1
⓰	Bearing	—	1
⓱	Needle bearing	—	1
⓲	Snap ring	—	1
⓳	Snap ring	—	1
⓴	Grease nipple	—	1
㉑	Copper rivet	—	6(10)
㉒	Oil seal	Nitrile rubber	1
㉓	O-ring	Nitrile rubber	3(5)
㉔	O-ring	Nitrile rubber	3(5)
㉕	O-ring	Nitrile rubber	1
㉖	Parallel single key	—	1
㉗	Silencer	—	1

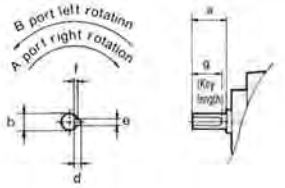
Figure in parenthesis is the quantity of TAM4-030

TAM4 RADIAL PISTON TYPE AIR MOTOR

DIMENSIONAL DRAWINGS/FUNDAMENTAL/TAM4-010·015

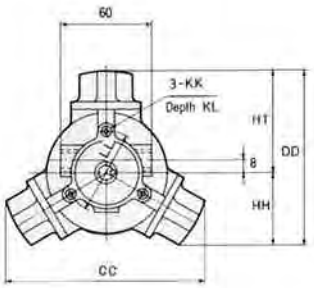
Unit : mm

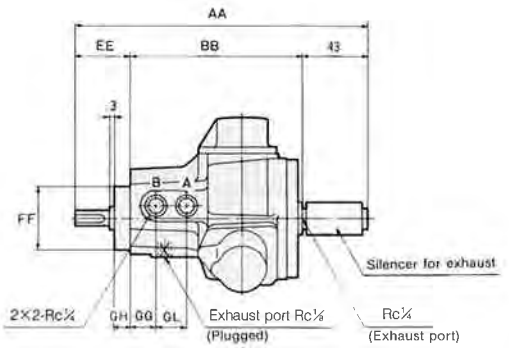
AXIAL END PART



BASIC TYPE

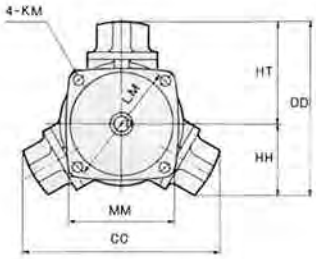
TAM4-010S
TAM4-015S

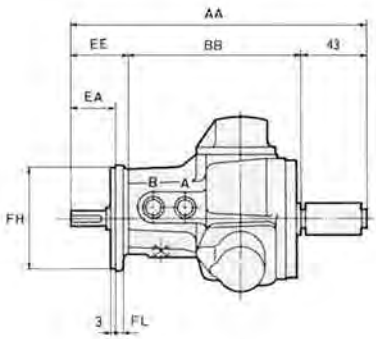




FLANGE TYPE

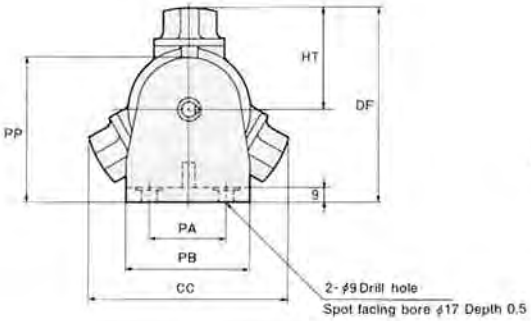
TAM4-010F
TAM4-015F

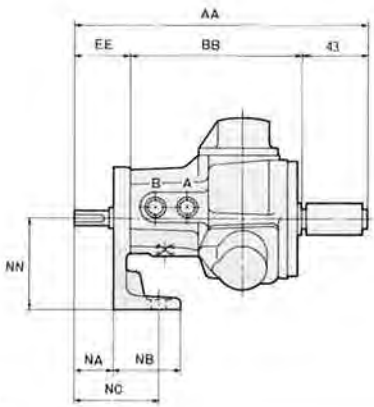




FOOT TYPE

TAM4-010L
TAM4-015L





DIMENSIONAL TABLE

Symbol / Model code	AA	BB	CC	DD	DF	EA	EE	FF	FH	FL	GG	GH	GL	HH	HT	KK	KL	KM
TAM4-010	192	113	130	115	127	29	36	φ42h7	φ68h7	5	17	10	20	48	67	M5×0.8	8	φ6
TAM4-015	225	137	164	142	152	36	45	φ48h7	φ78h7	7	19	12	28	60	82	M6×1	12	φ7

Symbol / Model code	LL	LM	MM	NA	NB	NC	NN	PA	PB	PP	Axial end part					
											a	b	d	e	f	g
TAM4-010	φ55	φ80	□72	26	45	56	60±0.1	50	80	94	23	φ10h6	3	3	1.8	20
TAM4-015	φ62	φ92	□86	33	50	63	70±0.1	70	100	110	30	φ12h6	4	4	2.5	27

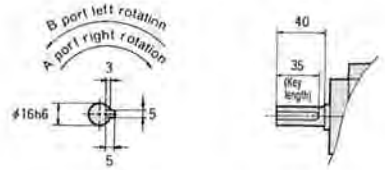
DIMENSIONAL DRAWINGS/FUNDAMENTAL/TAM4-030

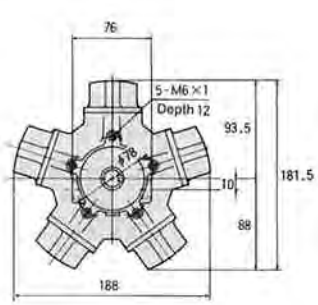
Unit : mm

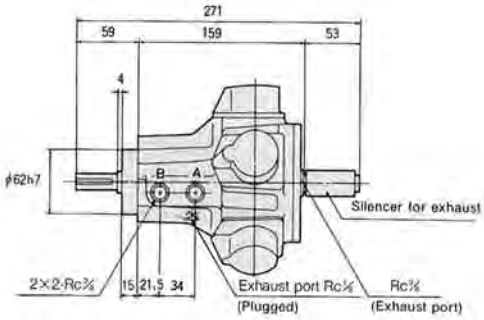
AXIAL END PART

BASIC TYPE

TAM4-030S

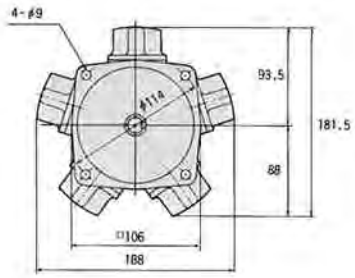


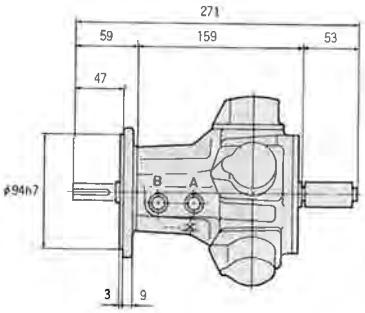




FLANGE TYPE

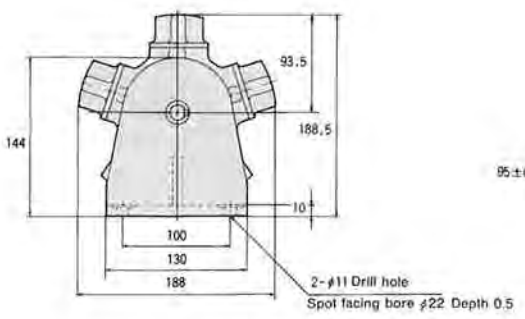
TAM4-030F

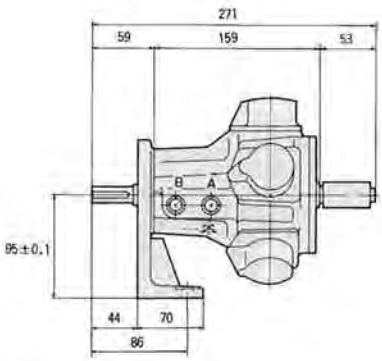




FOOT TYPE

TAM4-030L





TAM4 RADIAL PISTON TYPE AIR MOTOR

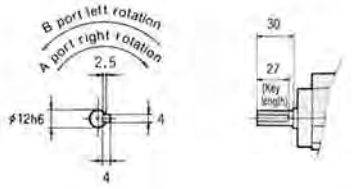
DIMENSIONAL DRAWINGS/WITH BRAKE/TAM4-015

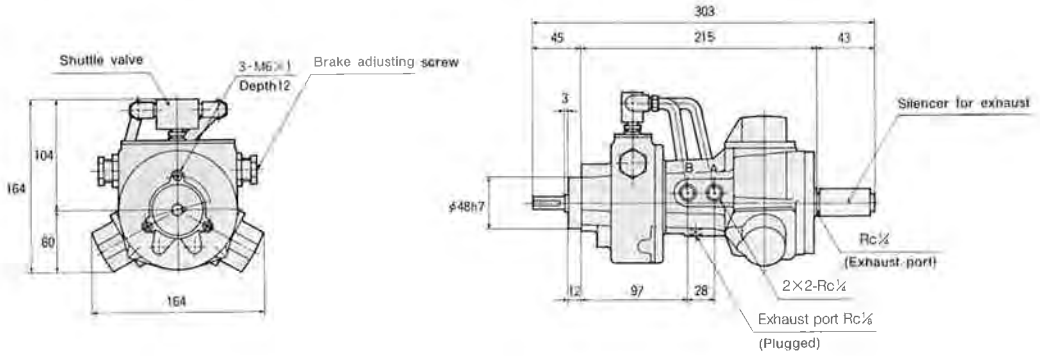
Unit : mm

AXIAL END PART

BASIC TYPE

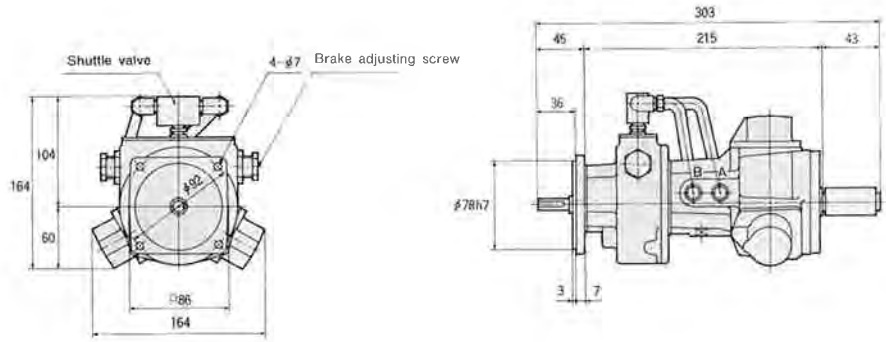
TAM4-015SB





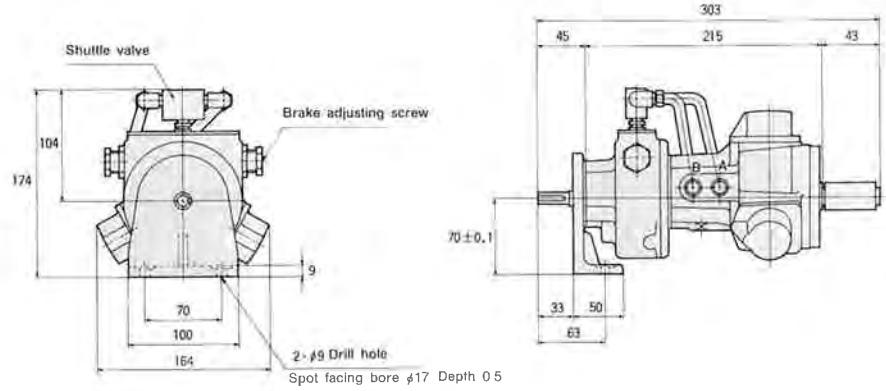
FLANGE TYPE

TAM4-015FB



FOOT TYPE

TAM4-015LB



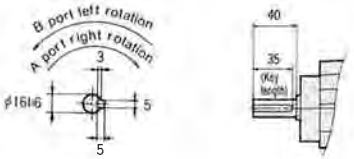
DIMENSIONAL DRAWINGS/WITH BRAKE/TAM4-030

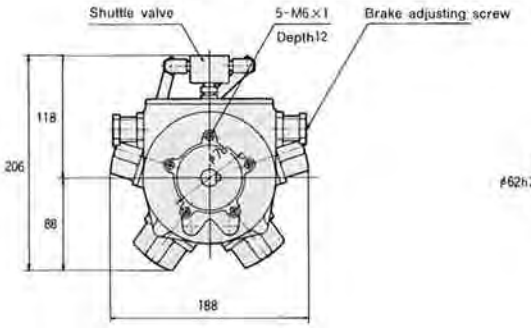
Unit : mm

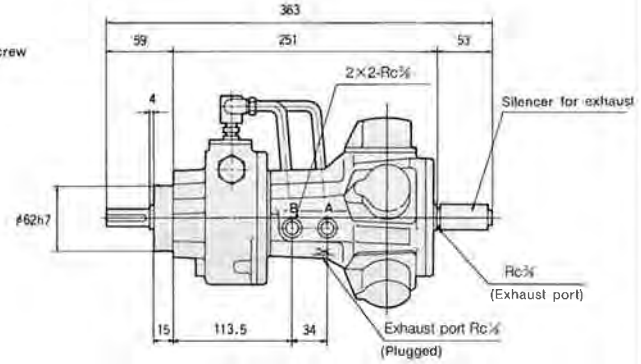
AXIAL END PART

BASIC TYPE

TAM4-030SB

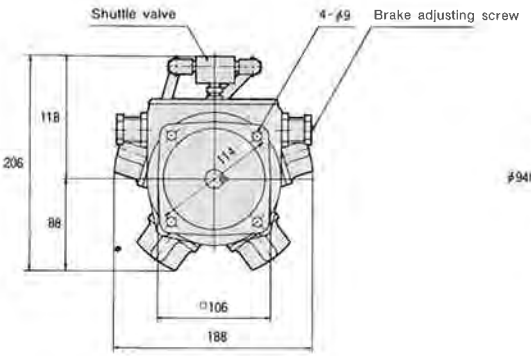


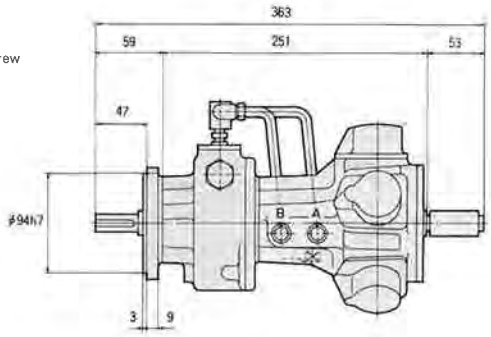




FLANGE TYPE

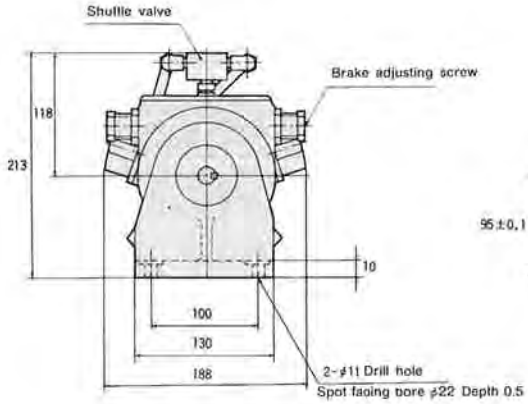
TAM4-030FB

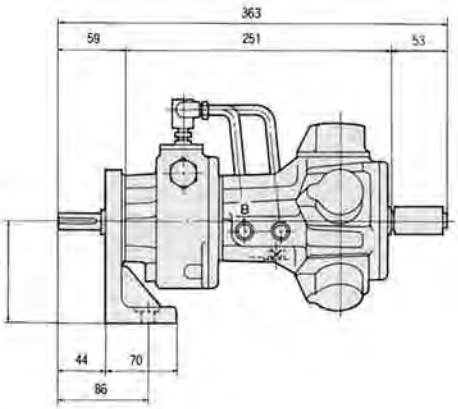




FOOT TYPE

TAM4-030LB





TAM4 RADIAL PISTON TYPE AIR MOTOR

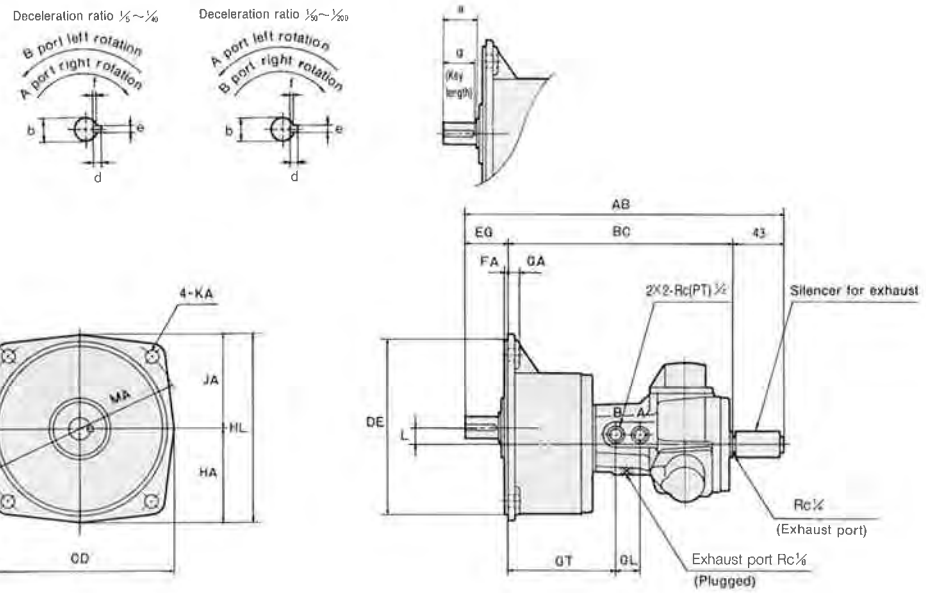
DIMENSIONAL DRAWINGS/WITH DECELERATOR/TAM4-010·015

Unit : mm

AXIAL END PART

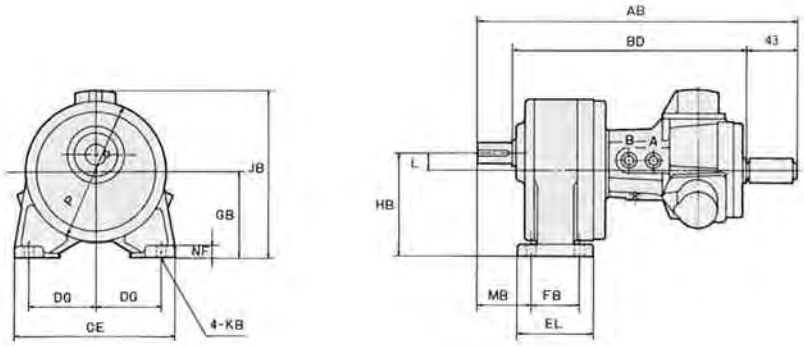
FLANGE TYPE

TAM4-010FG※※※
TAM4-015FG※※※
Deceleration ratio

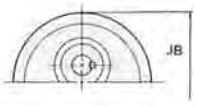


FOOT TYPE

TAM4-010LG※※※
TAM4-015LG※※※
Deceleration ratio



TAM4-015 Deceleration ratio 100·120·160·200



DIMENSIONAL TABLE

Symbol: Model code	Symbol: Deceleration ratio	AB	BC	BD	CD	CE	DE	DG	EG	EL	FA	FB	GA	GB	GL	GT	HA
TAM4-010※G	005 010 015 020	272	194	199	154	134	ϕ145h7	55	35	64	3	40	10	68.5	20	98	80
	005 010 015 020	323	233	240	164	154	ϕ148h7	65	47	90	4	65	12	71	28	115	89
TAM4-015※G	030 040 050 060 080	340	247	252	186	175	ϕ170h7	70	50	125	4	90	15	86.5	28	128	105.5
	100 120 160 200	360	257	262	215	208	ϕ180h7	85	60	168	4	130	15	101.5	28	139	126.5

Symbol: Model code	Symbol: Deceleration ratio	HB	HL	JA	JB	KA	KB	L	MA	MB	NF	P	Axial end part: a	b	d	e	f	g
TAM4-010※G	005 010 015 020	85	157	77	135.5	ϕ11	ϕ9	16.5	ϕ170	45	10	ϕ112	30	ϕ18h6	6	6	3.5	27
	005 010 015 020	90	171.5	82.5	153	ϕ11	ϕ11	19	ϕ185	55	12	ϕ125	40	ϕ22h6	6	6	3.5	35
TAM4-015※G	030 040 050 060 080	110	199	94	169	ϕ11	ϕ11	23.5	ϕ215	65	15	ϕ152	45	ϕ28h6	7	8	4	40
	100 120 160 200	130	234	107.5	198	ϕ13	ϕ13	28.5	ϕ250	70	18	ϕ184	55	ϕ32h6	8	10	5	50

DIMENSIONAL DRAWINGS/WITH DECELERATOR/TAM4-030

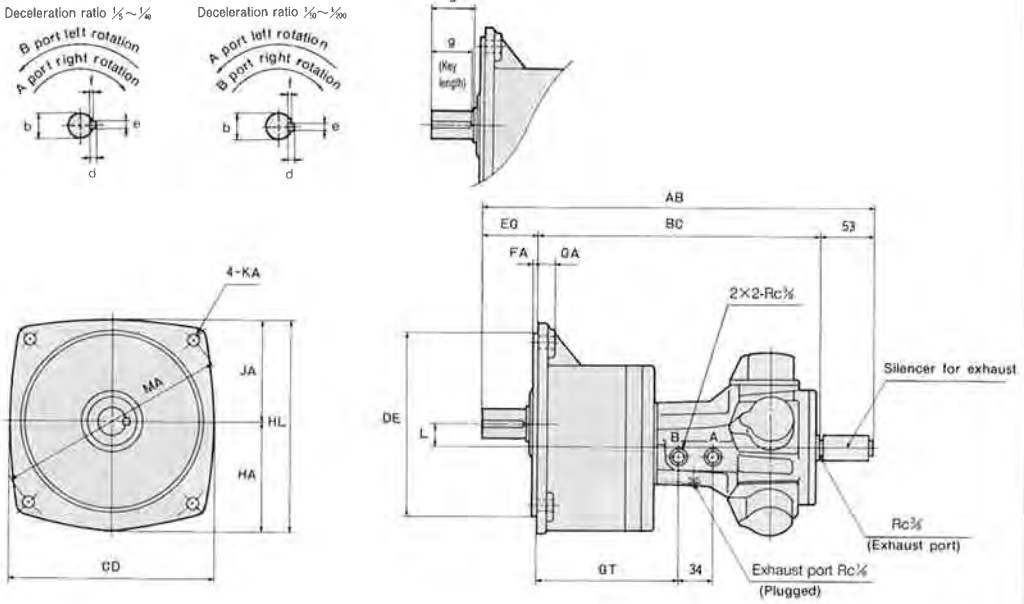
Unit : mm

AXIAL END PART

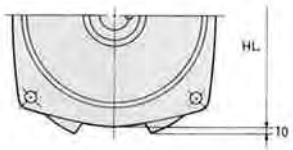
FLANGE TYPE

TAM4-030FG※※※

Deceleration ratio



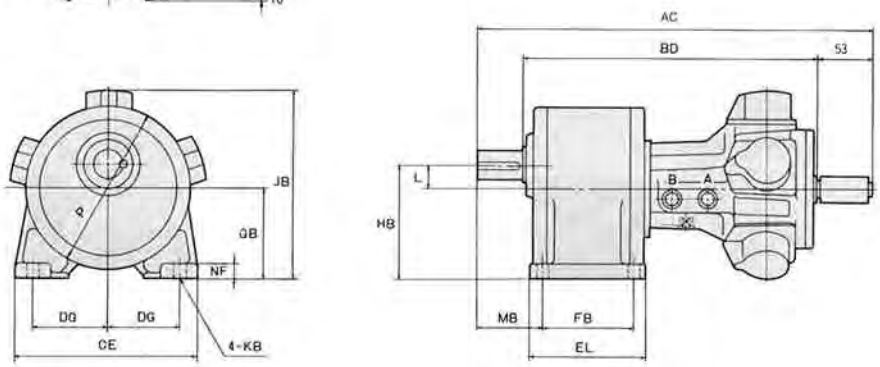
Deceleration ratio 005·010·015·020



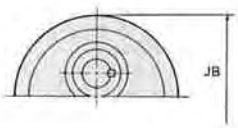
FOOT TYPE

TAM4-030LG※※※

Deceleration ratio



Deceleration ratio 100·120·160·200



DIMENSIONAL TABLE

Symbol Model code	Deceleration ratio	AB	AC	BC	BD	CD	CE	DE	DG	EG	EL	FA	FB	GA	GB	GT
TAM4-030※G	005 010 015 020	374	—	271	276	186	175	ϕ170h7	70	50	125	4	90	15	86.5	133
	030 040 050 060 080	403	—	290	295	215	208	ϕ180h7	85	60	168	4	130	15	101.5	152
	100 120 160 200	431	428	307	310	270	254	ϕ230h7	105	71	196	5	150	18	116	170

Symbol Model code	Deceleration ratio	HA	HB	HL	JA	JB	KA	KB	L	MA	MB	NF	P	Axial end part a	b	d	e	f	g
TAM4-030※G	005 010 015 020	105.5	110	198.5	93	180	ϕ11	ϕ11	23.5	ϕ215	65	15	ϕ152	45	ϕ28h6	7	8	4	40
	030 040 050 060 080	126.5	130	234	107.5	198	ϕ13	ϕ13	28.5	ϕ250	70	18	ϕ184	55	ϕ32h6	8	10	5	50
	100 120 160 200	149	150	284	135	230	ϕ18	ϕ15	34	ϕ310	90	20	ϕ218	65	ϕ40h6	8	12	5	60

TAM4 RADIAL PISTON TYPE AIR MOTOR

DIMENSIONAL DRAWINGS/WITH BRAKE·DECELERATOR/TAM4-015

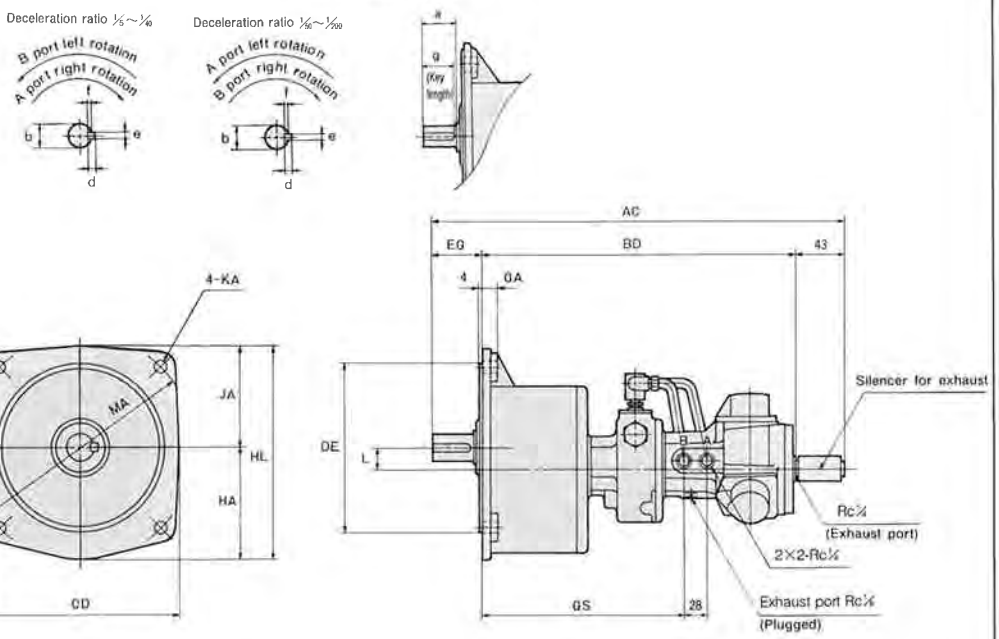
Unit : mm

AXIAL END PART

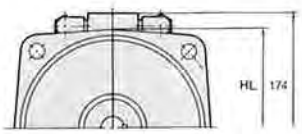
FLANGE TYPE

TAM4-015FBG※※※

Deceleration ratio



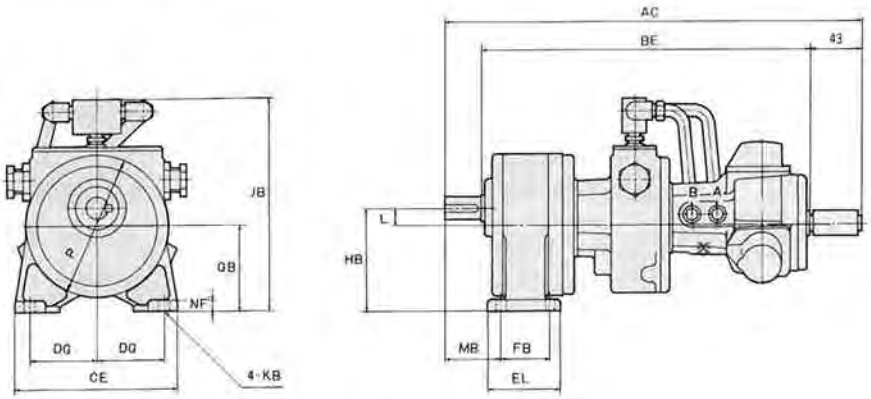
Deceleration ratio 005·010·015·020



FOOT TYPE

TAM4-015LBG※※※

Deceleration ratio



DIMENSIONAL TABLE

Symbol: Model code	Symbol: Deceleration ratio	AC	BD	BE	CD	CE	DE	DG	EG	EL	FB	GA	GB	GS	HA	HB
TAM4-015※BG	005 010 015 020	401	311	318	164	154	ϕ148h7	65	47	90	65	12	71	193	89	90
	030 040 050 060 080	417	324	329	186	175	ϕ170h7	70	50	125	90	15	86.5	206	105.5	110
	100 120 160 200	438	335	340	215	208	ϕ180h7	85	60	168	130	15	101.5	217	126.5	130

Symbol: Model code	Symbol: Deceleration ratio	HL	JA	JB	KA	KB	L	MA	MB	NF	P	Axial end part: a	b	d	e	f	g
TAM4-015※BG	005 010 015 020	174	82.5	175	ϕ11	ϕ11	19	ϕ185	55	12	ϕ125	40	ϕ22h6	6	6	3.5	35
	030 040 050 060 080	198.5	93	191	ϕ11	ϕ11	23.5	ϕ215	65	15	ϕ152	45	ϕ28h6	7	8	4	40
	100 120 160 200	234	107.5	206	ϕ13	ϕ13	28.5	ϕ250	70	18	ϕ184	55	ϕ32h6	8	10	5	50

DIMENSIONAL DRAWINGS/WITH BRAKE·DECELERATOR/TAM4-030

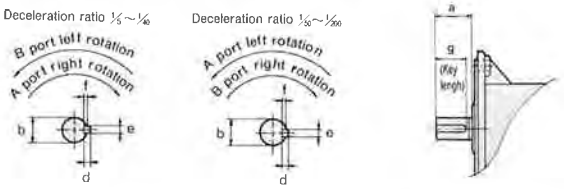
Unit : mm

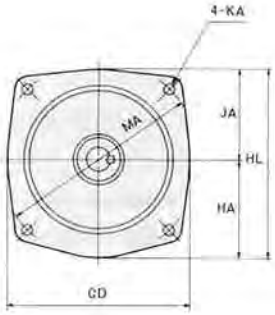
AXIAL END PART

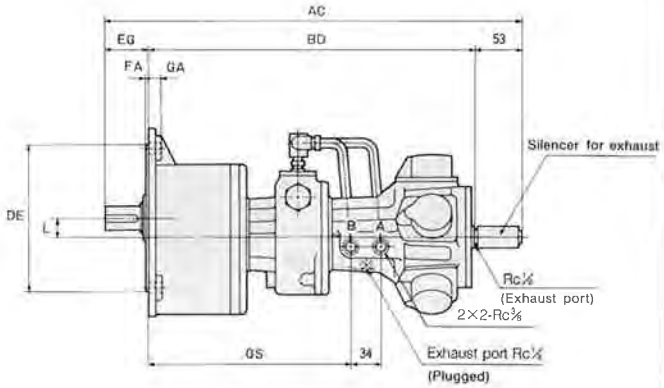
FLANGE TYPE

TAM4-030FBG※※※

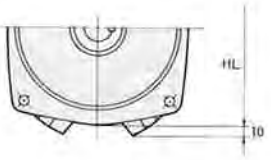
Deceleration ratio







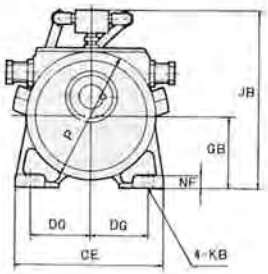
Deceleration ratio 005·010·015·020

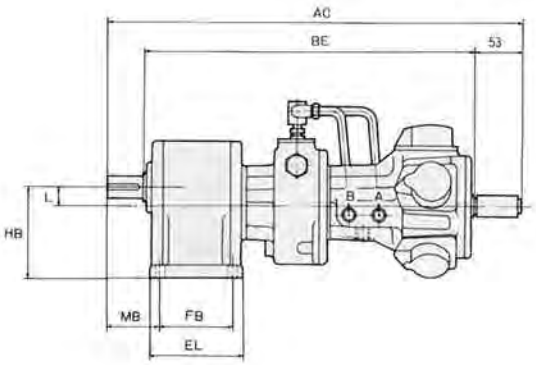


FOOT TYPE

TAM4-030LBG※※※

Deceleration ratio





DIMENSIONAL TABLE

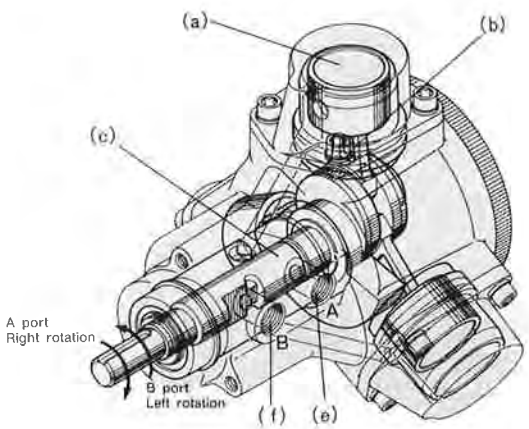
Symbol		AC	BD	BE	CD	CE	DE	DG	EG	EL	FA	FB	GA	GB	GS	HA	HB
Model code	Deceleration ratio																
TAM4-030※BG	005 010 015 020	466	363	368	186	175	ϕ170h7	70	50	125	4	90	15	86.5	225	105.5	110
	030 040 050 060 080	495	382	387	215	208	ϕ180h7	85	60	168	4	130	15	101.5	244	126.5	130
	100 120 160 200	520	396	402	270	254	ϕ230h7	105	71	196	5	150	18	116	259	149	150

Symbol		HL	JA	JB	KA	KB	L	MA	MB	NF	P	Axial end part					
Model code	Deceleration ratio											a	b	d	e	f	g
TAM4-030※BG	005 010 015 020	198.5	93	205	ϕ11	ϕ11	23.5	ϕ215	65	15	ϕ152	45	ϕ28h6	7	8	4	40
	030 040 050 060 080	234	107.5	220	ϕ13	ϕ13	28.5	ϕ250	70	18	ϕ184	55	ϕ32h6	8	10	5	50
	100 120 160 200	284	135	234	ϕ18	ϕ15	34	ϕ310	90	20	ϕ218	65	ϕ40h6	8	12	5	60

TAM4 RADIAL PISTON TYPE AIR MOTOR

STRUCTURE

ROTATION THEORY



For Radial Piston Type Air Motor, piston (a) and shaft (c) are connected by connecting rod (b), and compressed air sent from A port (e) is supplied successively to cylinder with rotary valve which is combined with shaft.
When compressed air is supplied, piston part pushes crank and gains rotation force. B port (f) at the opposite side becomes exhaust port. As compressed air is supplied from B port (f), shaft (c) performs clockwise rotation, and A port (e) becomes exhaust port.

WITH DECELERATOR

Air motor with decelerator is combined with small-type decelerator to gain the stabilized rotation and high output at the extremely slow rotation.

- FEATURES

1. Deceleration method is a 2~3-phase variable speed according to the circumscribed gear system.
2. All gears are heat treated.
3. The air motor has the gear on the high speed side of integral construction with the air motor output shaft to facilitate internal inspection, disassembly and assembly of the motor and the gear case.

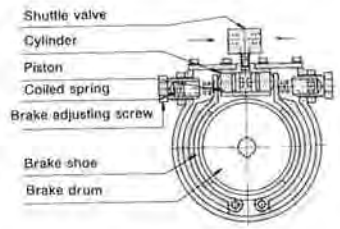
- The air motor with decelerator is not interchangeable with a standard motor because of different output shaft shape. (After-fitting of decelerator to a standard motor is unavailable.)

WITH BRAKE

Air motor can be stopped as engine brake is set by blocking the circuit with directional control valve, and brake torque corresponding to average start torque works in case that piping distance is short. But air motor with powerful external brake is necessitated in case that rotation of motor is inconvenient as torque is applied from load side at the time of suspension. For air motor with brake introduced here, double lock type brake is used.

- FEATURES

1. Non-phase adjustment is available for torque as needed.
2. Structure is simple with little trouble and long life.
3. Air motor made of aluminum is small and light.



It is load-working type double lock air brake with brake force turned out by pushing force of coiled spring and release conducted by air pressure as usual. Brake shoe is opened from brake drum as piston for release works after air pressure is applied to supply port of air motor and simultaneously to brake cylinder.
When the rotation of air motor is stopped and air pressure is exhausted, the air pressure of brake cylinder is also exhausted instantly, and brake shoe is pushed to drum with pushing force of coiled spring. The adjustment of brake torque is conducted with brake adjusting screw from the outside according to the necessary torque.

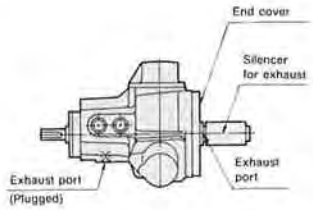
HANDLING INSTRUCTIONS

■PRECAUTIONS FOR USE

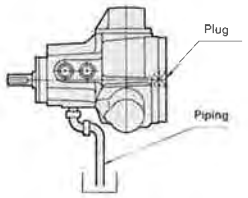
MOUNTING

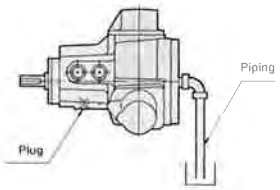
For all models of TAM4 series (fundamental, with brake, with decelerator, with brake/decelerator), the mounting direction and mounting angle are free. Core centering shall be performed so that axial core with shaft of matters to be driven will not be warped.

EXHAUST PORT



- Exhaust port is to remove pressure in air motor. It shall surely be kept open. When the breather port is plugged, the air motor internal pressures increases, resulting reduction of the output. Further, a trouble of come-off of the end cover will be caused.
- When shipped, silencer is not mounted at exhaust port of end cover part. In case of use, silencer shall be mounted.
- In use, air that leaks inside from exhaust port, and drains (water, oil) are exhausted to some extent. In case that dirt caused by drains is undesirable, piping shall be made to insert the end of pipe into supplementary container. Note) Lay the piping as short and thick as possible with care not to cause back pressure.





PIPING

- Pneumatic equipment (air filter, air regulator, air lubricator, directional control valve, etc.) shall be mounted near air motor as much possible.
- Trouble of pneumatic equipment is mainly caused by foreign matters including dust. Before piping, the inside of pipe shall be cleaned with compressed air (over 0.2MPa) in order that chips, scrap of tape seal, dust rust, etc. will not enter absolutely in pipe.
- For piping bore and pneumatic equipment (air filter, air regulator, air lubricator, directional control valve, etc.) bore corresponding to the air consumption of air motor shall be used. When thin pipe or pneumatic equipment with smaller bore than that of air motor air used, the pressure loss is large, and the necessary output and rotation may be unavailable. Piping with larger bore than the port bore of air motor is appropriate.
- Clean air with dust and moisture removed shall be used by mounting air filter, air dryer, etc. at the inlet of air pressure.
- Effective silencer shall be mounted at the exhaust side.
- In case of use at the high-speed rotation, precautions shall be taken for the configuration of circuit so that back pressure will rise.
- Be sure to use the air motor with the recommended rotation range. Otherwise, stabilized rotation cannot be obtained. What is worse, the air motor life may be adversely affected. (0.2～1) x Max. output rotation

LUBRICATING OIL

- Categories of oil

Air motor ···Daphne Eponex No. 1(Idemitsu Kosan)
Grease for high load
Decelerator···TAM4-010・015
TAM4-030 1/5～1/10
TAM4-030 1/100～1/200
} ⇨Listan EP-385(Esso Oil)

※For both air motor and decelerator, grease is mounted when delivered.

LUBRICATION

- With air lubricator mounted at the air pressure supply side, the spray lubrication shall be conducted.
- As lubricating oil for lubrication, JIS K2213-1 (Natural turbine oil ISO VG32) or equivalent shall be used.
- As to the quantity of lubrication, about 2 drops a minute are appropriate.

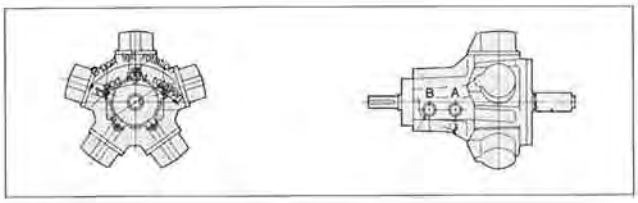
⚠ PRECAUTION

Insufficient lubrication will cause troubles such as shortening of life and seizure of rotary valve, piston and sleeve. Set an air lubricator near the air motor as much as possible.

■ROTATING DIRECTION OF AIR MOTOR

FUNDAMENTAL・WITH BRAKE

- As seen from the output shaft side, there is left rotation for front side (B port) air supply, and right rotation for rear side (A port) air supply.



WITH DECELERATOR・WITH BRAKE/DECELERATOR

Deceleration ratio 1/5 ～1/30

- As seen from output shaft side, there is left rotation for front side (B port) air supply, and right rotation for rear side (A port) air supply.

Deceleration ratio 1/40～1/200

- As seen from output shaft side, there is right rotation for front side (B port) air supply and left rotation for rear side (A port) air supply.