

MECHANICAL SPEED VARIATOR

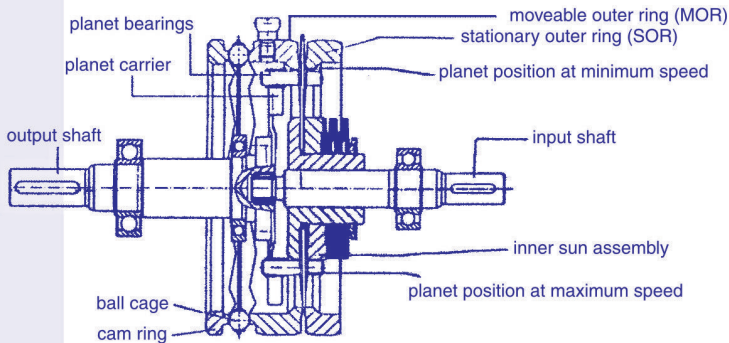
WORKING PRINCIPLE OF MECHANICAL SPEED VARIATOR

The **TRISONS Variable Speed Drives** is a planetary drive, where power and speed are transmitted by spring applied friction forces.

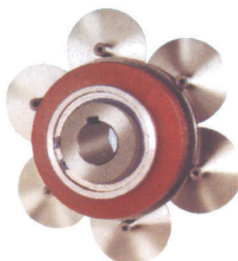
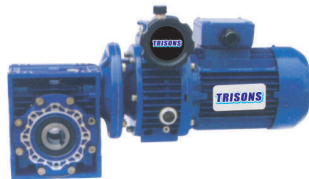
The Input shaft drives the inner sun. The two halves of the inner suns are compressed together with cup springs creating force against the planets. The planets also contract the outer rings which are fixed within the housing. The axes of the planets are connected to the planet carrier and output shaft by bearings fitted into slots in the planet carrier. When the input shaft turns the inner sun, the planets rotate against the outer rings, thereby causing the planet carrier and output shaft to rotate.

How the TRISONS DRIVES changes speed

Turning the handwheel causes the moveable outer ring (MOR) to turn. The MOR and the fixed cam ring are separated by the ball cage. The double cam action between the MOR and the fixed cam ring causes the MOR to shift axially as it rotates. The tapered planets are forced into the inner sun as the MOR shifts toward the stationary outer ring (SOR), or allows the spring action of the inner suns to force the planets away from the center line as the MOR shifts away from the SOR. Slots in the planet carrier allow the planets to move radially closer to or further from the center line. This movement, relative to the center line, alters the effective pitch diameter of the planets and the output speed. The drive may be shifted to low speed without shaft rotation but the drive must be rotating in order to shift to a higher speed.



TECHNICAL CHARACTERISTICS

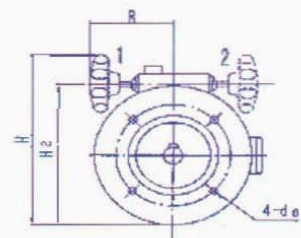
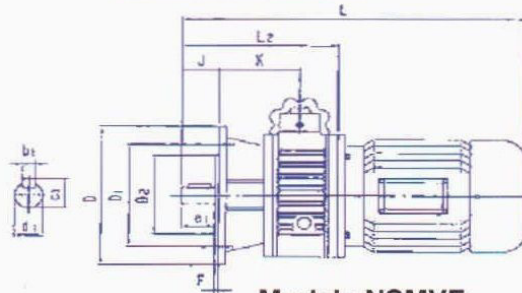


Size		01	02		03		04		05			06	
Motor Input Power (Kw)		0.18	0.25	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5
Motor Poles		(1400r/min) 4 Poles											
Types	Output speed	Maximum Output Torque Allowed (N.m)											
Basic Type Model : NSVF	190-950	2.5-1.6	3.5-1.8	5.1-2.7	8-4	11-5.4	15.3-8	21-11	30.6-16	42-22	59-29	77-40	105-54
With one pair of gear speed reducer Model : NSVR	100-500	--	6.5-3.4	9.5-5	14.2-7.4	20-10	29.2-15	40-20	58-30	80-40	104-54	143-74	200-101
	80-400	--	8-4.2	12.3-6.2	17.5-9.3	25-12.5	37-18.5	50-52	71-37	100-50.5	130-67	180-93	245-126
	60-300	--	11-5.6	15.8-8.3	24.5-13	33.2-16.8	50-21.7	65-34	98-50	134-67.5	173-90	240-124	330-168
	40-200	14-6.2	16-8.4	24-12.5	34.5-18.5	50-25	73-37	100-50.5	147-74	200-201	256-135	380-190	490-253
With two pair of gear speed reducer Model : NSV2R	30-150	--	--	--	--	--	--	--	186-100	267-132	356-176	490-242	668-300
	28-140	--	--	--	52-26	70-35.4	105-52	143-71	--	--	--	--	--
	25-125	--	25-13	39-20	--	--	--	--	--	--	--	--	--
	20-100	--	--	--	--	--	--	--	294-145	401-198	535-264	735-363	1002-495
	18-90	--	--	--	81-40	100-55	--	--	--	--	--	--	--
	15-75	--	42-22	65-32.6	--	--	196-97	255-132	--	--	--	--	--
	13-65	--	--	--	113-56	150-76	--	--	--	--	--	--	--
	9-45	--	65-37	105-54	--	--	--	--	--	--	--	--	--
	8-40	--	--	--	182-91	250-124	--	--	--	--	--	--	--
	6.5-32.5	--	--	--	225-112	300-152	--	--	--	--	--	--	--
With three pair of gear speed reducer Model : NSV3R	4.7-23.5	--	--	204-102	292-150	426-207	603-303	795-413	--	--	--	--	--
	2-10	--	--	--	426-356	426	--	--	--	--	--	--	--

STEPLESS SPEED VARIATOR (Basic Model)

Appearance and Installation Dimensions

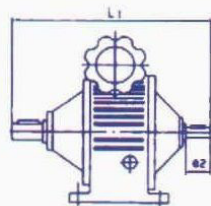
FLANGE TYPE



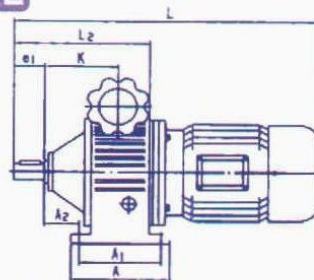
Model : NSMVF

Model	No.	Installation Dimension					Output Shaft				Appearance dimension							N.T. (kg)
		D ₁	D ₂	d ₀	J	F	d ₁	b ₁	c ₁	e ₁	H	H ₂	L	L ₂	D	K	R	
NSMVF	01	115	95	10	31	3	11f6	4	12.5	30	189	46	351	137	142	81	105	15
	02	130	110	10	44	3.5	14f6	5	16	40	210	68	375	165	160	86	105	22
	03	165	130	12.5	54.5	3.5	19f6	8	27.3	50	250	207	453	208	200	109	110	38
	04	215	180	14.5	61	4	24f6	8	31	60	307	252	593	307	250	174	147	61
	05	265	230	16.5	86	4	28f6	10	41	80	368	313	753	412	300	244	160	134
NSMVXF	02	130	110	9	30	3.5	14f6	5	16	30	210	168	364	165	160	86	105	18
	03	165	130	11	40	3.5	19f6	6	21.5	40	268	207	424	208	200	109	110	24

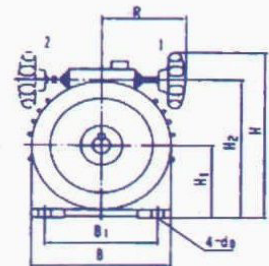
FOOT TYPE



Model : NSVI



Model : NSMV



Model	No.	Installation Dimension			Input Shaft				Output Shaft			
		A ₁	A ₂	B ₁	d ₂	b ₂	c ₂	e ₂	d ₁	b ₁	c ₁	e ₁
NSMV	03	125	30	160	—	—	—	—	20f6	6	22.5	40
	04	115	50	180	—	—	—	—	24f6	8	28	50
NSVI	03	125	30	160	19f6	6	21.5	30	20f6	6	22.5	40
	04	115	50	180	24f6	8	27	40	24f6	8	27	50

Model	No.	Appearance Dimension								N.T. (kg)
		H	H ₁	L	L ₁	L ₂	A	B	K	
NSMV	03	256	106	422	—	182	150	190	93	38
	04	307	123	489	—	229	155	243	106	60
NSVI	03	256	106	—	251	—	150	190	93	40
	04	307	123	—	314	—	155	243	106	60

Product Application

MECHANICAL SPEED VARIATOR Suitable for wide range of Industrial such as:

CABLE, CEMENT, COAL, FOOD, LEATHER, MACHINE TOOLS, PAPER, PHARMACEUTICAL, PLASTIC, POLYMER, PRINTING, PUMP, RAYON, RUBBER, TEXTILE, TOBACCO, WIRE, GLASS, SPECIALLY FOR CERAMICS GLAZE TILES INDUSTRIES & MANY OTHER INDUSTRIES

MANUFACTURED BY :

N. S. ENGINEERING

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