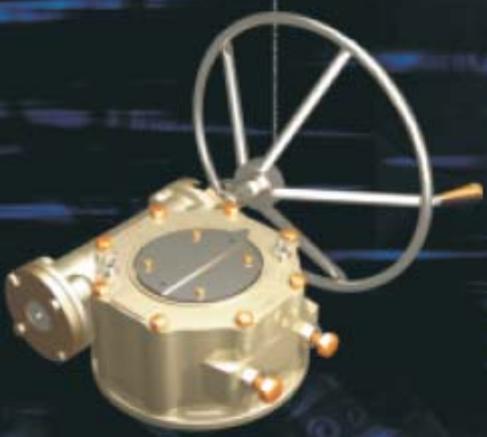
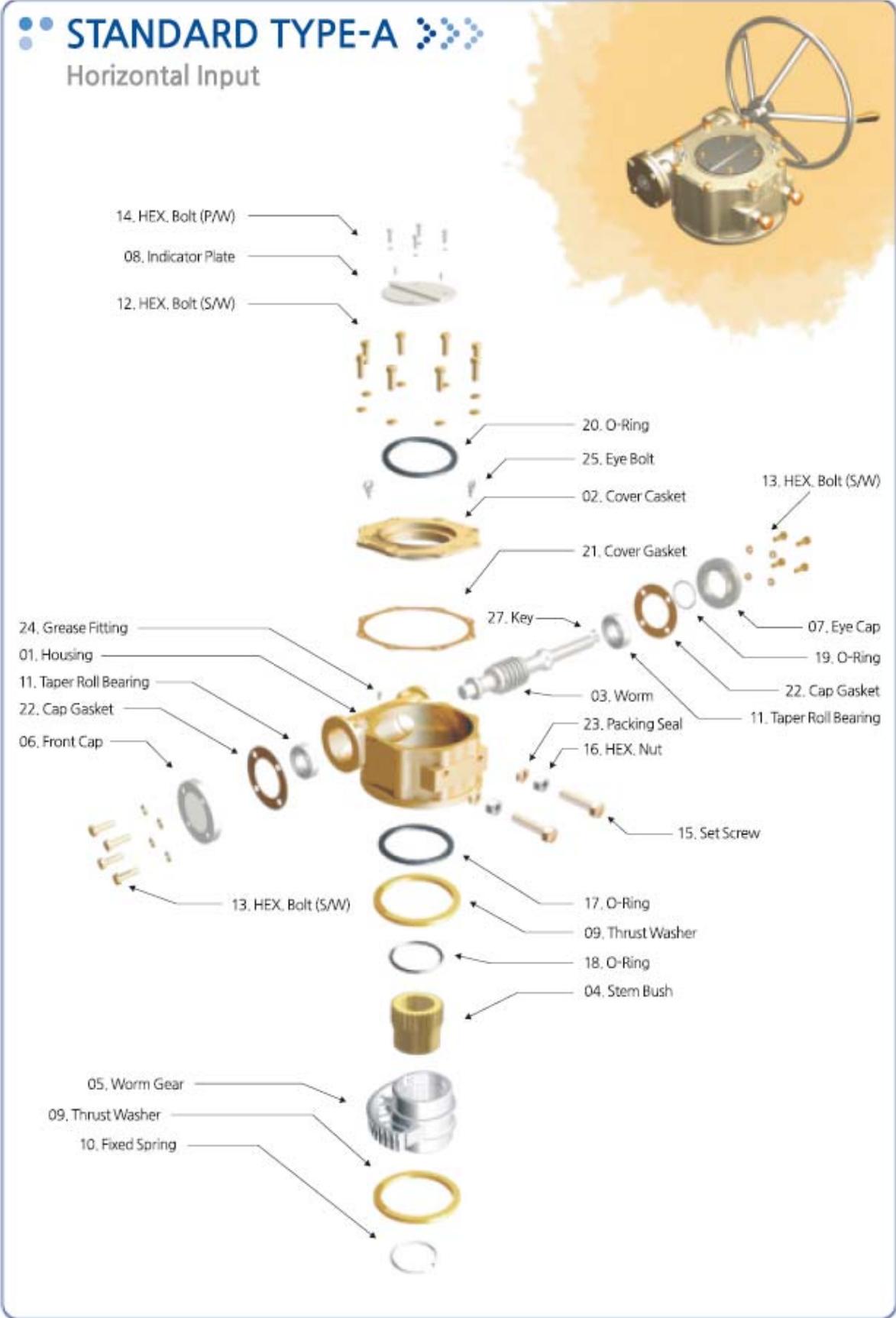


# WORM GEAR ACTUATORS



Worm Gear Assembly



## Worm Gear Assembly

### Part List & Material

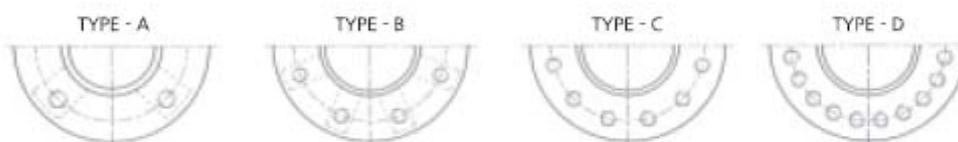
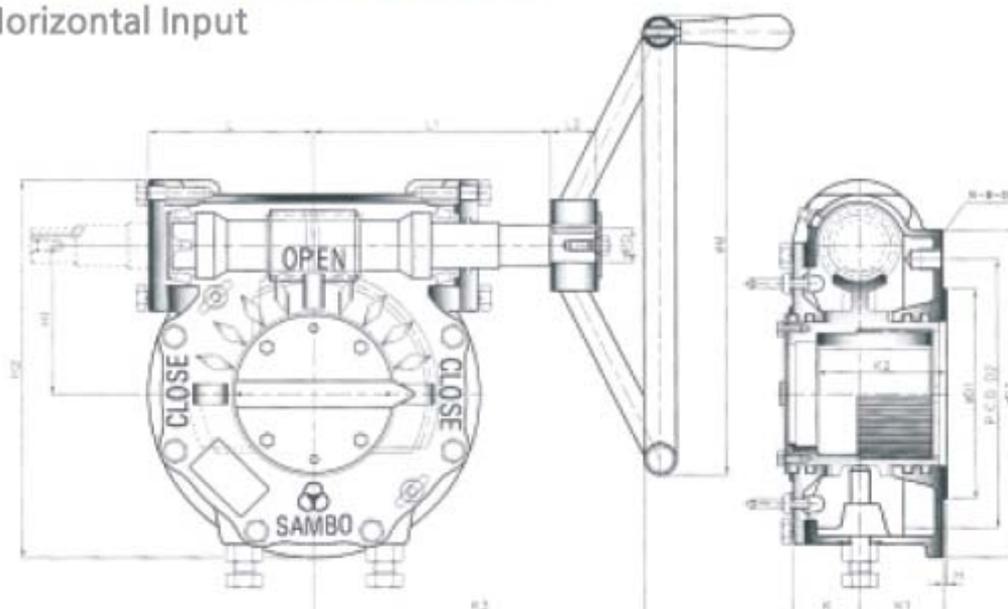
	NO.	DESCRIPTION	MATERIAL		REMARK	
			NAME	JIS		ASTM
STANDARD	01	Housing	Ductile Iron	FCD-450	A536-65-45-12	NOTE. 1
	02	Cover	Ductile Iron	FCD-450	A536-65-45-12	NOTE. 1
	03	Worm	Alloy Steel	SCM440	A322-4140	NOTE. 2
	04	Stem Bush	Ductile Iron	FCD-450	A536-65-45-12	
	05	Worm Gear	Ductile Iron	FCD-600	A536-80-55-06	B148-C95800(ALBC3)
	06	Front Cap	Carbon Steel	S45C	A576-1045	
	07	End Cap	Carbon Steel	S45C	A576-1045	
	08	Indicator Plate	Carbon Steel	S20C + Zn	A576-1020	
	09	Thrust Washer	Carbon Steel	SS41	A283 GR. D	
	10	Fixed Spring	Special Steel	SK5	W1-8	
	11	Taper Roll Bearing	Special Steel	SUJ2	A295-52100	
	12	HEX. Bolt (S/W)	Special Steel	SCM440	A322-4140	
	13	HEX. Bolt (S/W)	Special Steel	SCM440	A322-4140	
	14	HEX. Bolt (P/W)	Special Steel	SCM440	A322-4140	
	15	Set Screw	Special Steel	SCM440	A322-4140	
	16	HEX. Nut	Special Steel	SCM440	A322-4140	
	17	O-Ring	Buna N	NBR		
	18	O-Ring	Buna N	NBR		NOTE. 3
	19	O-Ring	Buna N	NBR		
	20	O-Ring	Buna N	NBR		
	21	Cover Gasket	Non-Asbestos			VALQUA 6500
	22	Cap Gasket	Non-Asbestos			
	23	Packing Seal	Buna N	NBR		
	24	Grease Fitting	Carbon Steel	S20C + Zn	A576-1020	
	25	Eye Bolt	Carbon Steel	S20C + Zn	A576-1020	
OPTION	OP-01.	Hand Wheel	Steel Pipe	STPG	A53	
	OP-02.	Key (1R)	Carbon Steel	S45C	A576-1045	
	OP-03.	Name Plate	Aluminium			HANDLE PART
	OP-04.	Washer	Carbon Steel	SS41	A283 GR.D	NOTE. 4
	OP-05.	HEX. Bolt (S/W)	Alloy Steel	SUS304	A276-304	

### Material Detail : Option and Material Changes

- All castings are Ductile Iron, FCD-450 (ASTM Class 65-45-12)
- In case of option for special request, it can be worked Nickel coating, high tensile stainless.
- O-Ring Seal & Lubricant  
 Standard is Buna "N", temperature range -30°C to +120°C (-22°F to +248°F).  
 Standard lubricant is shall Alvania EP2, temperature Range -20°C to +120°C (-4°F to +248°F).  
 Other option are  
 High Temperature Viton O-Ring Grade V75, Temperature Range -25°C to +200°C (-4°F to +392°F)  
 Lubricant - shall Darina R2, Temperature Range -10°C to +200°C (-14°F to +392°F)  
 Low Temperature Viton O-Ring Grade V115, Temperature Range -35°C to +160°C (-31°F to +320°F)  
 Lubricant - shall S-6751, Temperature Range -40°C to +90°C (-40°F to +194°F)
- SAMBO offers a wide variety of Handwheels, Chainwheels, Input Shaft, Locking Devices, etc.  
 Paint : Unless specified, units are supplied with vp184 red epoxy primer. SAMBO can provide finish coating upon request.

## STANDARD TYPE-A

Horizontal Input



### Dimension

UNIT : mm

MODEL	DIM	TYPE	BASE PART					EXTERNAL PART								Input Shaft Part			Hand wheel ØM	
			FLANGE SIZE	ØD1	P.C.D		ØD3	H	H1	H2	K	K1	K2	K3	L	L1	L2	ØPD		KEY
					D2	N-H-DP														
SBWG-BF	A	F-07	55	70	4-M8-17	95	2	40.5	123	37	40	40	144	58	91	24	16	6X6	200	
SBWG-0		F-10	70	102	4-M10-17	125		53	151	39	43	43	177	72	105				250	
SBWG-00		F-12	85	125	4-M12-20	150		62.5	178	44	52	54	228	84	136				300	
SBWG-01		F-14	100	140	4-M16-25	175		75	203	43	54	66	257	93	145				400	
SBWG-02		F-16	130	165	4-M20-30	210		91.5	247	53	63	75	297	111	169				500	
SBWG-03	B	(F-16) F-20	160	205	8-M16-30	250	3	113	288	54	63	86	330	124	182	34	26	8X7	560	
SBWG-04		F-25	200	254	8-M16-32	300		153	386	74	73	117	370	154	207				630	
SBWG-05		F-30	230	298	8-M20-40	350		180	438	77	78	138	427	164	217				710	
SBWG-06		F-35	260	356	8-M30-45	415		230	559	91	109	172	489	221	285				800	
SBWG-07		F-40	300	406	8-M36-55	475		280.5	661	112	115	206	538	230	315				900	
SBWG-08	C	F-48	370	483	12-M36-55	560	3	339.5	816	144	122	248	637	306	401	58	50	16X10	1000	
SBWG-09	D					700	3	429.5	997	156	146	278	690	349	490	58	50	16X10	1000	
SBWG-10		F-60	470	603	20-M36-55	800		513	1191	190	161	327	814	434	614					
SBWG-11						900		616.5	1400	213	186	375	857	477	657					
SBWG-12		(F-80)	650	800	20-M42-65	1000		809	1807	250	210	430	1053	600	853					



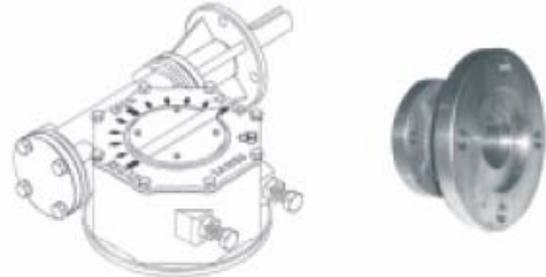
**Bushing Type**  
Splines permit accurate alignment of valve stem key.

## FEATURE

- All mounting bases conform to ISO 5210/1 standards.
- All castings are decline iron, Class 65-45-12 excellent strength and impact resistance.
- Worm gear material is available in two options.
  - Decline iron, Class 80-55-06
  - Aluminum bronze, B148-C95800
- Worm is 4140 heat treated alloy steel.
- Removable splined bushing to permit accurate positioning between gear drive and valve stem.
- Options include hand wheels, chain wheels, etc.

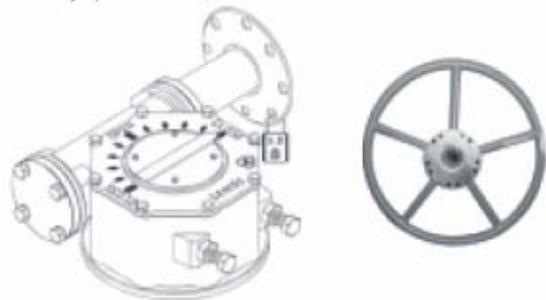
## M-O-V Option

Worm Gear can be provided with Motor actuator input flanges to accept standard ISO Mounting Base.



## Locking Device Option

Input can be equipped with a Hand wheel locking device for Manually operated units.



## Selection Chart for Manual Operation

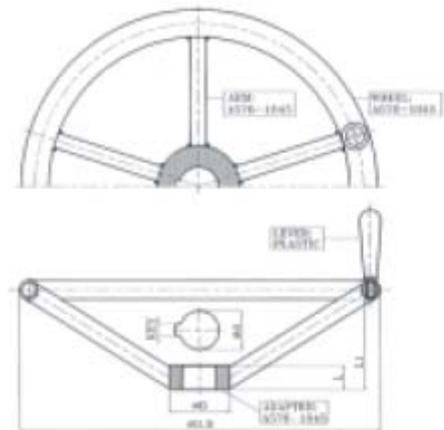
MODEL \ SIZE	GEAR RATIO	MAX. STEM ACCEPTANCE	MOUNTING OPTION & STANDARD	MAX. TORQUE CAPACITY		WEIGHT
				N · m	Ft · lbf	Kg
SBWG-8F	32 : 1	20 (6X6)	F-07	310	229	4
SBWG-0	36 : 1	28 (8X7)	F-07, F-10	600	443	6
SBWG-00	38 : 1	36 (10X8)	F-10, F-12	1000	738	9
SBWG-01	42 : 1	46 (14X9)	F-12, F-14	1550	1143	13
SBWG-02	48 : 1	60 (18X11)	F-14, F-16	2400	1770	21
SBWG-03	52 : 1	75 (20X12)	F16, (F-20)	4300	3172	30
SBWG-04	56 : 1	95 (25X14)	(F-20), F-25	9240	6820	56
SBWG-05	60 : 1	115 (32X18)	F-25, F-30	14800	10916	88
SBWG-06	64 : 1	140 (36X20)	F-30, F-35	26700	19693	162
SBWG-07	68 : 1	180 (45X25)	F-35, F-40	51100	37690	268
SBWG-08	58 : 1	225 (50X28)	F-40, F-48	106000	78182	510
SBWG-09	62 : 1	280 (63X32)	F-48, F-60	167000	123173	930
SBWG-10	64 : 1	320 (70X36)	F-60	250000	184390	1515
SBWG-11	68 : 1	360 (80X40)	F-60	370000	272897	2145
SBWG-12	72 : 1	400 (90X45)	F-60, (F-80)	540000	396283	3130

## Handwheel Type

### Worm Standard Handwheel

MODEL	SIZE	Ø0.D	ØD	ØD & KEY	L	L1	ARM Q'TY
WH-200	200	40	40	Ø16 5X5	25	50	3EA
WH-250	250					60	
WH-300	300	50	50	Ø21 5X5	25	80	4EA
WH-350	350					100	
WH-400	400	60	60	Ø26 8X7	35	130	5EA
WH-450	450					150	
WH-500	500	70	70	Ø32 10X8	35	170	6EA
WH-560	560					190	
WH-630	630	80	80	Ø38 12X8	45	210	6EA
WH-710	710					230	
WH-800	800	100	100	Ø50 16X10	59	250	6EA
WH-900	900					270	
WH-1000	1000						
WH-1100	1100						

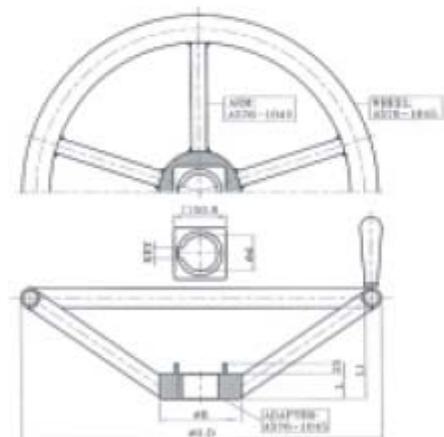
If there is no request from customers, we will make handwheel as per the above table.  
As option, the material can be changed and Handwheel size can be suitable for all model.



### Drive Nut Handwheel

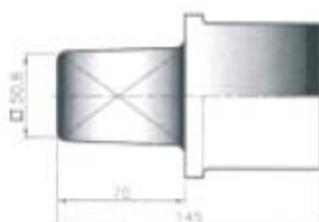
MODEL	SIZE	Ø0.D	ØD	ØD & KEY	L	L1	ARM Q'TY
WDH-200	250	100	100	Ø16 5X5	25	85	3EA
WDH-250	250						
WDH-300	300	100	100	Ø21 5X5	25	95	4EA
WDH-350	350						
WDH-400	400	100	100	Ø26 8X7	35	105	5EA
WDH-450	450						
WDH-500	500	100	100	Ø32 10X8	35	115	6EA
WDH-560	560						
WDH-630	630	100	100	Ø38 12X8	45	125	6EA
WDH-710	710						
WDH-800	800	100	100	Ø50 16X10	59	135	6EA
WDH-900	900						
WDH-1000	1000						
WDH-1100	1100						

This Handwheel is the type using air impact wrench and if can be made properly according to customer's request.

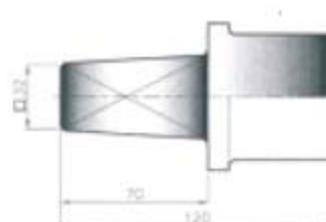


### Square Adapter

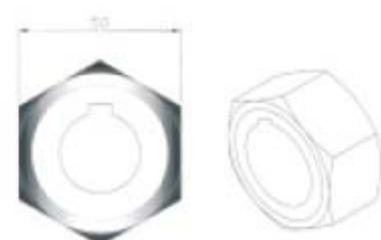
• 2" Square Nut



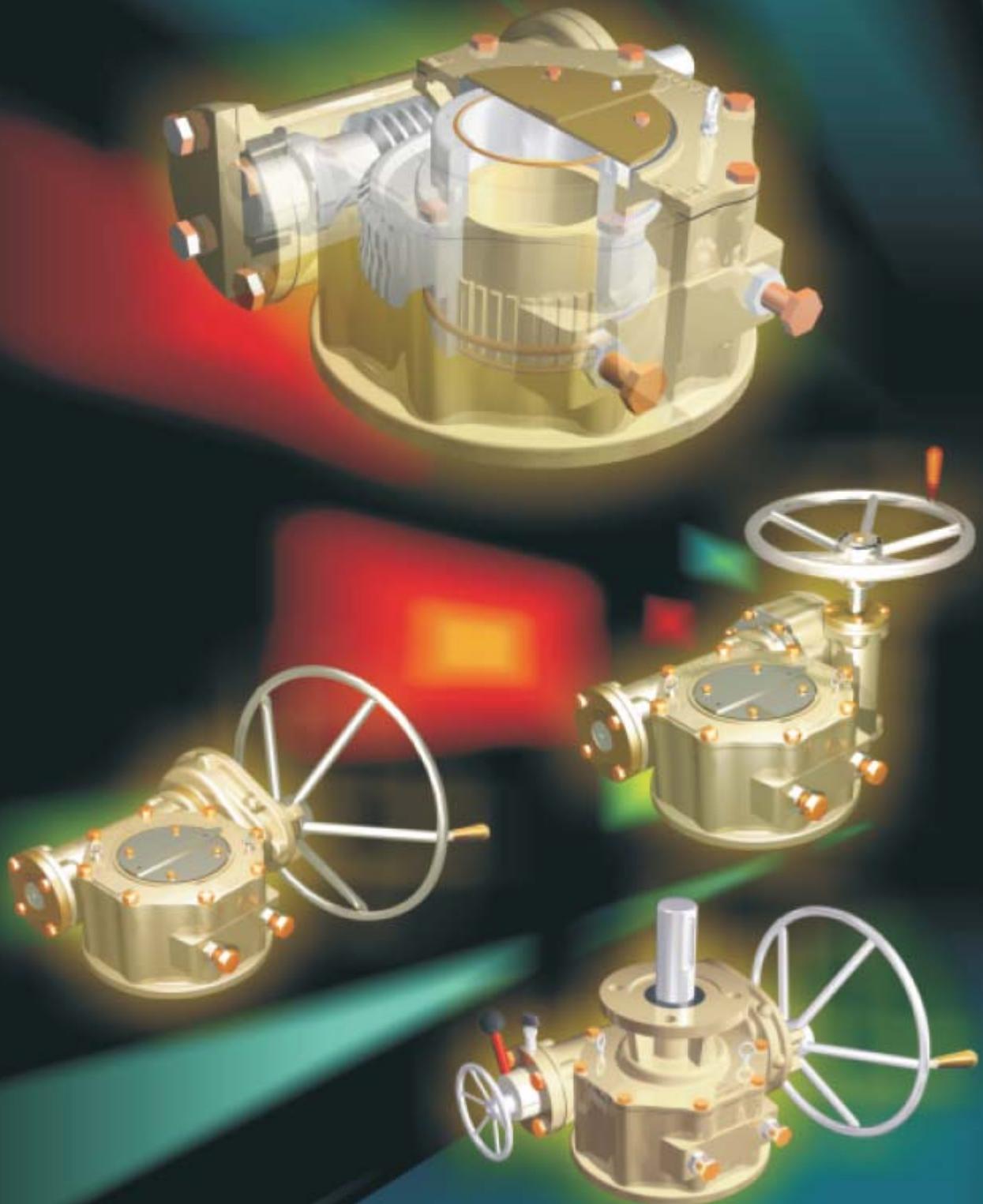
• □32 Square Nut



• Hexagon Adapter



•• **WORM GEAR ACTUATORS** ❖❖❖ **OPTION**  
Production Range



## :: GENERAL TYPE



FLANGE (for electric actuator) LOCKING DEVICE

WORM & WORM  
FLANGE

## :: HORIZONTAL TYPE



FLANGE (for electric actuator) LOCKING DEVICE



## :: VERTICAL TYPE



FLANGE (for electric actuator)

SQUARE ADAPTER

UNDER GROUND

## :: SPECIAL TYPE



TRAVELING NUT STOP

DECLUCH GEAR

PLANET REDUCTION

AIR CYLINDER