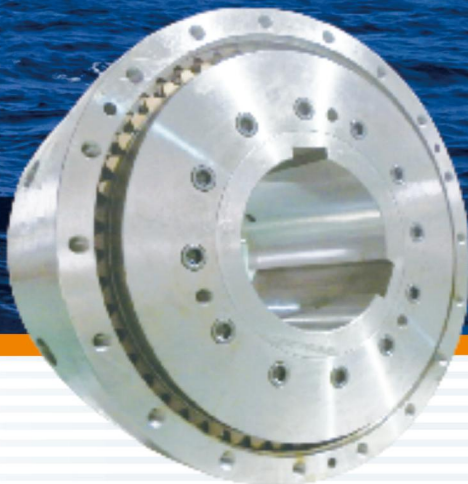


Hydraulic Wet Actuated Clutch HW KWN 25000



**Product | Engineering Services
Maintenance**

HW Series Hydraulic Actuated Clutch



The working principle of hydraulic clutch is to release the piston from the brake friction plate through the oil pressure of the shaft and clutch hub, until it comes into contact with the clutch friction plate, and the clutch engages.

Types



HW	---	Standard Version
HWHS	---	Version for high torques with shoulder housing
HWTF	---	Version for high thermal loading with flang housing
HWTS	---	Version for High Thermal Loading with Shoulder Housing

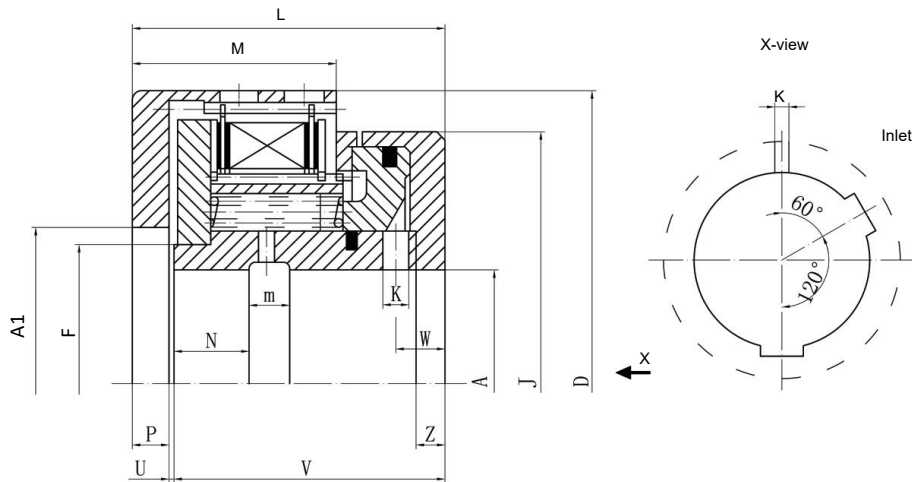
Application

Application Examples

- Winches
- Marine propeller
- Rubber Machinery
- Construction Machinery
- Petroleum Machinery
- Industrial Application

* For wet operation and horizontal mounting only.

Type HW Standard Version

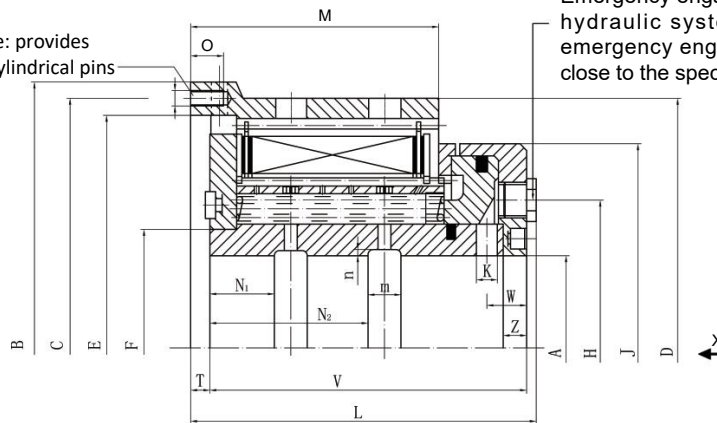


Size	HW095	HW112	HW125	HW140	HW160	HW180	HW200	HW252	
OA max H7	38	45	48	60	65	70	75	82	
DA prebored	18	25	25	25	32	32	32	40	
OA1 prebored	18	20	20	20	25	28	28	30	
OD	95	112	125	140	160	180	200	252	
OF	48	55	63	72	80	85	95	115	
OJ	90	104	110	125	140	155	185	230	
OK	4	4.5	4.5	5.5	6	7	7	8	
L	58	66	70	80	93	98	110	137	
M	34	41	44	50	60	64	70	88	
N	12	12	12	15	21	24	24	36	
m	10	12	12	14	14	12	15	15	
P	5	9	9	9	12	12	14	15	
U	1	1	1	1	1	1	1	2	
V	52	56	60	70	80	85	95	120	
W	9	10	11	12	14.5	15	18	21	
Z	6	6.5	7.5	8	9	9	12	15	
Max. Speed	5000	5000	5000	5000	5000	4300	3900	3100	
Max.Rel.Speed	8700	7400	6700	5800	5200	4500	4100	3200	
Weight(Kg)	2.4	3.6	4.7	6.7	10.2	13.7	20.3	41.3	
Stroke Volume(dm ³)	New	0.006	0.008	0.011	0.014	0.023	0.033	0.054	0.108
	Worn	0.01	0.017	0.021	0.03	0.046	0.064	0.102	0.215
Inertia Body(Kgm ²)	Inner	0.0018	0.0036	0.005	0.01	0.019	0.032	0.062	0.195
	Outer	0.001	0.0027	0.0048	0.008	0.017	0.027	0.047	0.147
Operating Pressure(bar)	18			20					
Back Pressure(bar)	2	2.6	3	4	4.7	4.5	4.8	5	
Dyn. Torque(Nm)	200	280	400	560	800	1250	2000	4000	

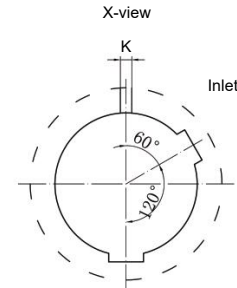
* Size HW95, HW112 adopt a one key, which is 180 ° relative to the oil inlet; Size HW125 and above adopt two keyways.

Type HWHS Version for high torques with shoulder housing

Circular hole: provides additional cylindrical pins



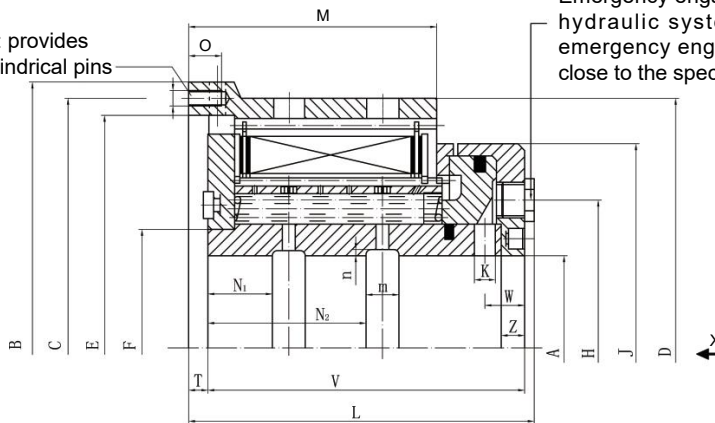
Emergency engagement (optional). If there is a malfunction in the hydraulic system, remove the plug, install and adjust the emergency engagement bolt to make the friction plate engage close to the specified torque.



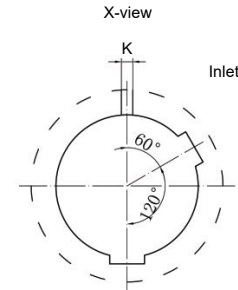
Size	HWHS260	HWHS280	HWHS310	HWHS345	HWHS395	HWHS430	HWHS485	
A max H7	82	100	110	125	150	165	190	
OAprebored	40	50	50	70	80	80	100	
OB	285	300	330	365	415	455	505	
OC	260	280	310	340	390	430	480	
OD	260	280	310	345	395	430	485	
OE H7	245	260	290	320	370	405	455	
OF	115	130	145	165	200	220	250	
G	12-M10	12-M10	12-M12	12-M14	18-M12	18-M14	18-M16	
OH	170	178	200	220	265	290	330	
DJ	230	240	270	300	340	380	428	
OK	8	8	10	12	12	14	16	
L	173	171	186	203	228	254	284	
M	117	117	125	134	150	165	188	
N ₁	34	30	34	36	42	45	53	
N ₂	79	76	83	88	100	110	127	
m	12	12	12	15	15	20	20	
n	4	4	4	5	5	6	6	
O	18	18	20	25	25	25	25	
T	10	10	10	10	10	10	10	
V	157	155	170	185	210	235	265	
W	21	19	23	27	29	32	36	
Z	15	12	15	18	20	21	24	
Max. Speed(rpm)	3100	2250	2000	1800	1600	1400	1250	
Max.Rel.Speed(rpm)	3200	3070	2725	2450	2095	1930	1710	
Weight(Kg)	50	55	75	125	140	210	275	
Stroke Volume(dm ³)	New	0.177	0.186	0.261	0.342	0.466	0.67	0.881
	Worn	0.225	0.309	0.423	0.583	0.809	1.116	1.493
Inertia Body(Kgm ²)	Inner	0.25	0.29	0.52	0.85	1.62	2.7	5
	Outer	0.23	0.27	0.45	0.82	1.41	2.3	3.9
Operating Pressure(bar)	20	25						
Back Pressure(bar)	4.7	2.7	2.61	2.78	2.95	3.04	3	
Dyn. Torque(Nm)	7000	11200	16000	22500	32000	45000	63000	

Type HWHS Version for High Torques with Shoulder Housing

Circular hole: provides additional cylindrical pins



Emergency engagement (optional). If there is a malfunction in the hydraulic system, remove the plug, install and adjust the emergency engagement bolt to make the friction plate engage close to the specified torque.



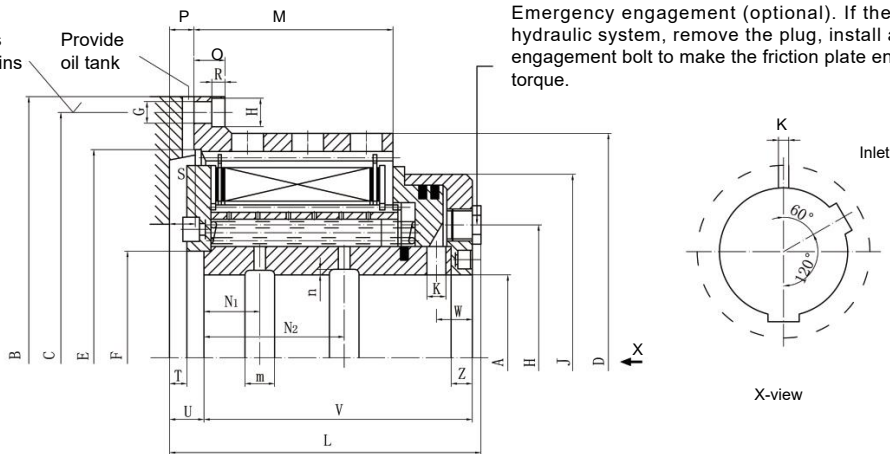
Size	HWH530	HWH585	HWH660	HWH740	HWH820	HWH920	HWH1000	
A max H7	210	235	265	285	315	370	400	
OAprebored	100	120	120	120	150	150	200	
OB	560	620	700	785	860	970	1050	
OC	530	585	660	740	820	920	1000	
OD	530	585	660	740	820	920	1000	
OE H7	500	550	620	695	780	870	935	
OF	280	300	340	370	430	500	530	
G	18-M20	18-M24	18-M24	24-M24	24-M24	24-M27	24-M30	
OH	365	405	460	500	560	675	725	
DJ	473	525	592	665	740	835	920	
OK	17	18	20	20	22	24	28	
L	309	334	369	394	431	481	531	
M	208	224	245	250	264	294	320	
N ₁	62	69	78	80	85	96	109	
N ₂	144	157	174	176	188	212	237	
m	20	20	20	20	20	20	20	
n	7	8	9	9	10	10	10	
o	30	36	36	36	40	45	50	
T	10	10	10	10	10	10	10	
V	290	315	350	375	400	450	500	
W	42	44	51	53	55	62	69	
Z	15	31	37	38	40	45	50	
Max. Speed(rpm)	1150	1000	900	900	750	700	600	
Max.Rel.Speed(rpm)	1555	1400	1245	1125	1000	890	815	
Weight(Kg)	360	480	650	900	1250	1650	2210	
Stroke Volume(dm ³)	New	1.22	1.7	2.02	2.76	3.35	4.6	6.2
	Worn	2	2.88	3.88	5.31	6.71	9.2	12.4
Inertia Body(Kgm ²)	Inner	81	14	25	37	695	1,175	2,048
	Outer	6	95	185	265	48	70	104
Operating Pressure(bar)	25							
Back Pressure(bar)	2.84	2.6	2.6	2.8	3.1	2.73	2.83	
Dyn. Torque(Nm)	90000	125000	180000	250000	315000	450000	630000	

Type HWTF Version for High Thermal Loading with Flang Housing

Circular hole: provides additional cylindrical pins

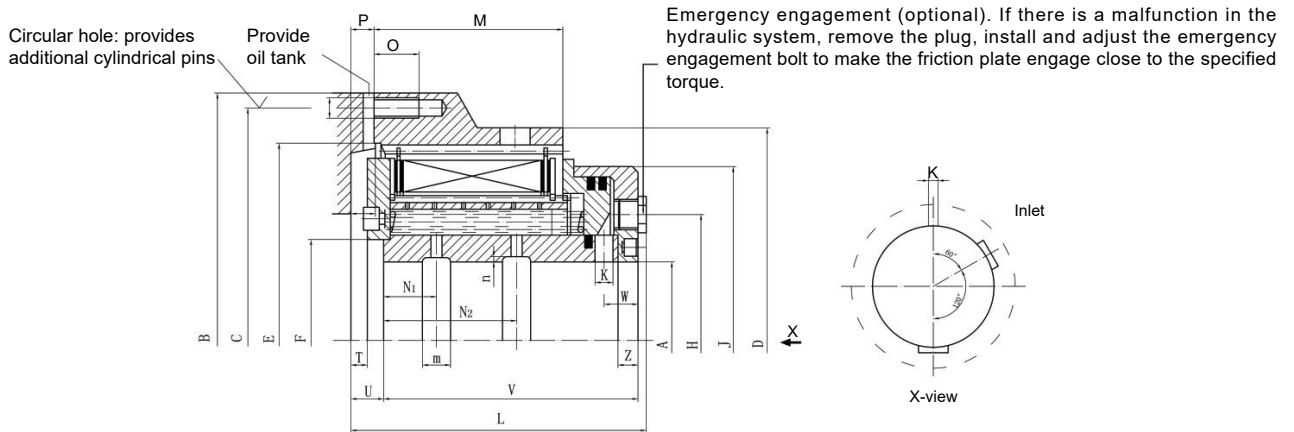
Provide oil tank

Emergency engagement (optional). If there is a malfunction in the hydraulic system, remove the plug, install and adjust the emergency torque.



Size	HWTF 315	HWTF 370W1	HWTF 370W2	HWTF 435	HWTF 490	HWTF 580W1	HWTF 580W2	HWTF 580W3	HWTF 650	HWTF 750W1	HWTF 750W2	
OA max H7	90	110	110	150	165	180	180	180	245	260	260	
DA prebored	50	50	50	80	80	100	100	100	100	100	100	
OB	370	430	430	500	550	680	680	680	750	850	850	
OC	340	400	400	470	520	632	632	632	705	800	800	
OD	315	370	370	435	490	580	580	580	650	750	750	
OE	295H7	345H7	345H7	410H7	465H7	560 ^{+02/+0.1}	560 ^{+02/+0.1}	560 ^{+02/+0.1}	620 ^{+02/+0.1}	710 ^{+02/+0.1}	710 ^{+02/+0.1}	
OF	125	142	142	200	210	240	240	240	300	330	330	
G	6-015	6-017	12-017	12-017	12-017	12-026	12-026	12-026	16-026	16-026	16-026	
OH	23.5	25.5	25.5	25.5	25.5							
OJ	270	290	290	350	380	460	460	460	535	630	630	
OK	10	12	12	12	12	15	15	15	20	20	20	
L	146	180	205	203	245	234	261	289	320	378	413	
M	75	85	115	105	145	115	145	170	160	172	205	
N ₁ /N ₂	35/-	35/-	35/75	50/-	62/-	48/-	40/85	45/125	70/135	120/-	80/180	
mxn	15x3	18x3	18x3	18x3	18x3	25x3	25x3	25x3	25x4	30x5	30x5	
O	15	20	20	20	20	22	22	22	25	35	35	
P	15	15	13	15	15	15	15	15	38	38	38	
R	7.5	10	10	10	10							
S	20	20	18	20	20	20	20	20	43	53	53	
T	9.5	10	8	10	11	12.5	11	11	13	13	13	
U	20	25	23	23	25	25	25	25	13	13	13	
V	115	150	177	173	213	200	227	255	290	365	400	
W	27	32	32	32	34	43	43	43	50	60	60	
Z	18	18	18	19	20	26	26	26	30	40	40	
Max. Speed(rpm)	2200	1800	1800	1500	1200	1000	1000	1000	800	750	750	
Max.Rel.Speed(rpm)	2900	2500	2500	2000	1800	1500	1500	1500	1300	1150	1150	
Weight(Kg)	54.8	88.1	105.3	136.2	210	292	334	372	481	810	895	
Stroke Volume(dm ³)	New	0.173	0.211	0.288	0.352	0.51	0.625	0.865	1.057	1.409	1.772	2.303
	Worn	0.38	0.538	0.653	0.812	1.148	1.537	1.826	2.018	3.003	3.898	4.784
Inertia Body(Kgm ²)	Inner	0.366	0.744	0.844	1.787	3.254	6.728	7.443	8.199	14.87	33.58	35.8
	Outer	0.348	0.821	1.043	1.677	3.391	5.919	7.139	8.29	12.83	25.79	30.06
Operating Pressure(bar)	24											
Back Pressure(bar)	2.8	2.2	2.2	2.6	1.6	1.7	1.7	1.7	1.5	1.7	1.6	
Dyn. Torque(Nm)	9000	12000	17000	24000	37000	45000	60000	75000	102000	140000	175000	

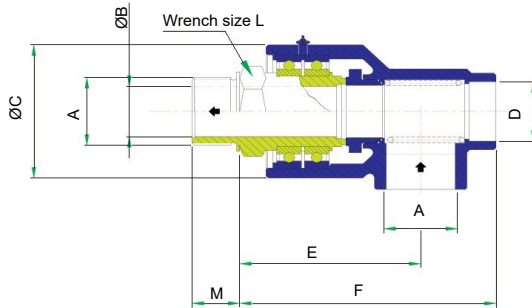
Type HWTS Version for High Thermal Loading with Shoulder Housing



Size	HWTS 315	HWTS 370W1	HWTS 370W2	HWTS 435	HWTS 490	HWTS 580W1	HWTS 580W2	HWTS 580W3	HWTS 650	HWTS 750W1	HWTS 750W2
DA max H7	90	110	110	150	165	180	180	180	245	260	260
OA prebored	50	50	50	80	80	100	100	100	100	100	100
DB	335	395	395	460	515	610	610	610	700	800	800
OC	310	365	365	430	485	580	580	580	655	750	750
OD	315	370	370	435	490	580	580	580	650	750	750
OE	295H7	345H7	345H7	410H7	465H7	555 ^{+0.2} / _{+0.1}	555 ^{+0.2} / _{+0.1}	555 ^{+0.2} / _{+0.1}	620 ^{+0.2} / _{+0.1}	710 ^{+0.2} / _{+0.1}	710 ^{+0.2} / _{+0.1}
OF	125	142	142	200	210	240	240	240	300	330	330
G	12-M12	12-M14	12-M14	12-M14	12-M16	12-M20	12-M20	12-M20	16-M24	20-M24	20-M24
OJ	270	290	290	350	380	460	460	460	535	630	630
OK	10	12	12	12	12	15	15	15	20	20	20
L	146	180	205	203	245	234	261	289	320	378	413
M	75	85	115	105	145	115	145	170	160	172	205
N ₁ /N ₂	35/-	35/-	35/75	50/-	62/-	48/-	40/85	45/125	70/135	120/-	80/180
mxn	15x3	18x3	18x3	18x3	18x3	25x3	25x3	25x3	25x4	30x5	30x5
0	28	35	35	35	45	30	30	30	45	50	50
P	15	15	13	15	15	15	15	15	38	38	38
S	20	20	18	20	20	20	20	20	43	53	53
T	9.5	10	8	10	11	12.5	11	11	13	13	13
U	20	25	23	23	25	25	25	25	13	13	13
V	115	150	177	173	213	200	227	255	290	365	400
W	27	32	32	32	34	43	43	43	50	60	60
Z	18	18	18	19	20	26	26	26	30	40	40
Max. Speed(rpm)	2200	1800	1800	1500	1200	1000	1000	1000	800	750	750
Max.Rel.Speed(rpm)	2900	2500	2500	2000	1800	1500	1500	1500	1300	1150	1150
Weight(Kg)	53.8	86.6	105.1	134.1	210	282	327	363	484	807	894
Stroke Volume(dm ³)	New	0.173	0.211	0.288	0.352	0.51	0.625	0.865	1.057	1.409	2.303
	Worn	0.38	0.538	0.653	0.812	1.148	1.537	1.826	2.018	3.003	4.784
Inertia Body(Kgm ²)	Inner	0.366	0.744	0.844	1.787	3.254	6.728	7.443	8.199	14.87	35.8
	Outer	0.312	0.746	1.013	1.533	3.337	4.936	6.247	7.363	12.96	29.41
Operating Pressure(bar)	24										
Back Pressure(bar)	2.8	2.2	2.2	2.6	1.6	1.7	1.7	1.7	1.5	1.7	1.6
Dyn. Torque(Nm)	9000	12000	17000	24000	37000	45000	60000	75000	102000	140000	175000

Rotating Unions for HW Hydraulic Actuated Clutch

Single Flow Series U



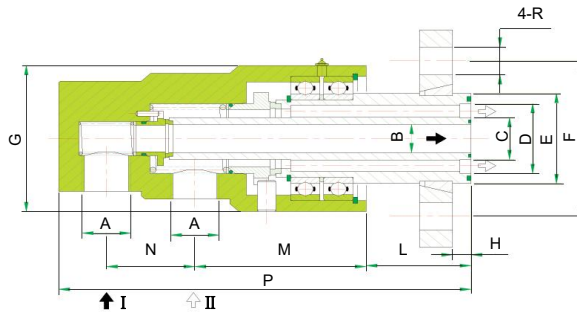
Max Pressure: 70 Bar

Max oil temperature: 110°

Care should be taken that the max. Speed and the max. Pressure are not present at the same time.

Sizes	A	B	C	D	E	F	L	M	Max.Speed(rpm)
U.25.M	1/4"BSP	6	36		60	74	17	14.5	5000
U.37.M	3/8"BSP	10	44	1/4"BSP	68	90	22	16	3500
U.50.M	1/2"BSP	13	52	3/8"BSP	76	101	27	18	3000
U.75.M	3/4"BSP	18	57	1/2"BSP	80	111	32	20	2500
U.100.M	1"BSP	24	73	3/4"BSP	97	134	41	23	2000

Dual Flow Series U



I : Max Pressure: 70 Bar

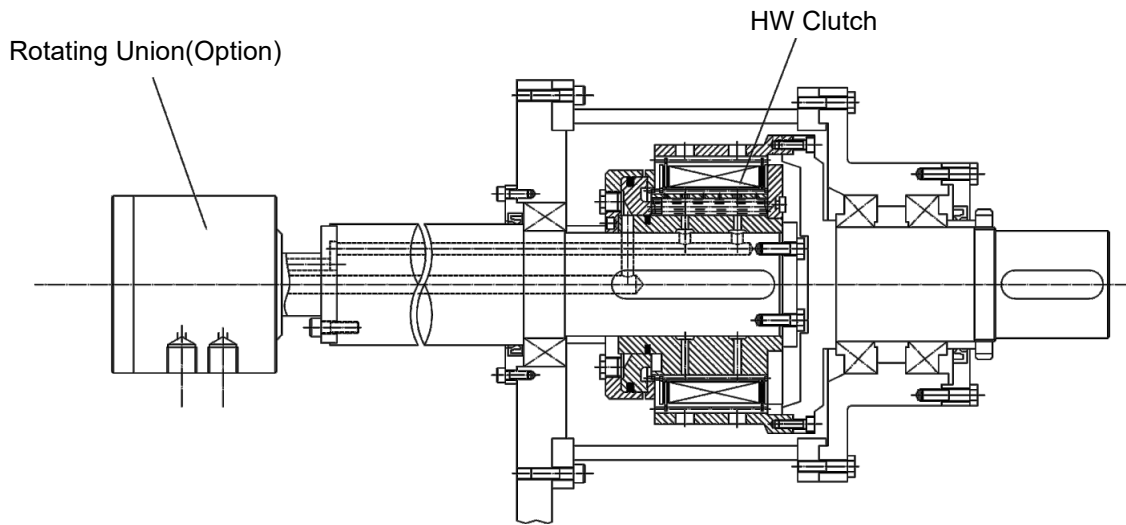
II :Max Pressure: 12 Bar

Max oil temperature: 110°

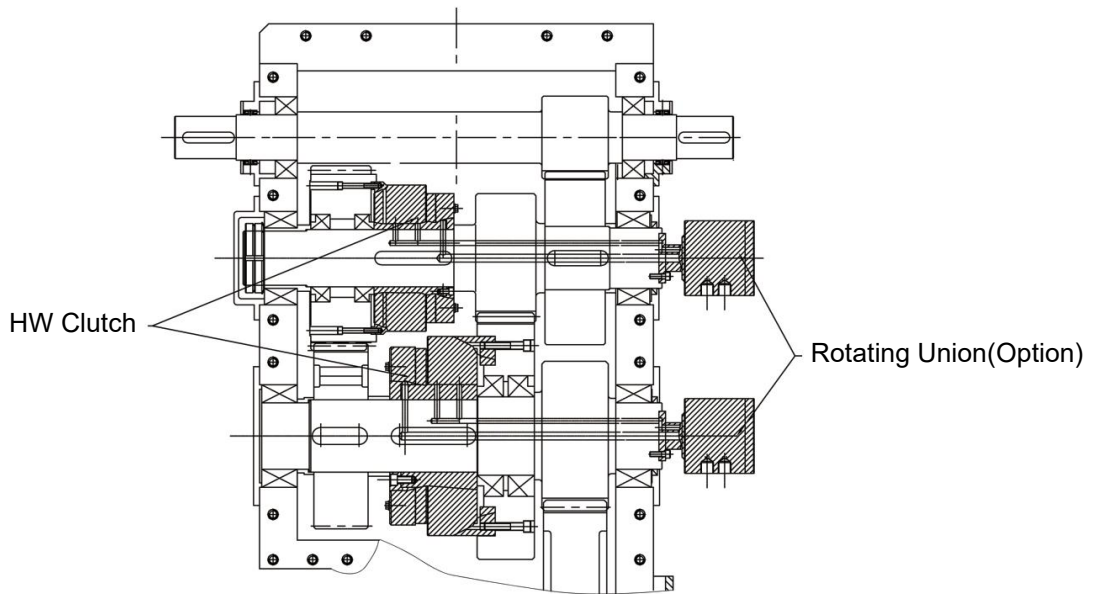
Care should be taken that the max. Speed and the max. Pressure are not present at the same time.

Sizes	OA	OB	OC	OD	OE	OF	OG	H	L	M	N	P	OR	Max. Speed(rpm)
D.25	1/4"BSP	6	13.3	23	36	65	17	14.5	43	62	30	148	14	2800
D.37	3/8"BSP	10	18	31	45	75	22	16	48	78	38	178.5	14	2100
D.50	1/2"BSP	13	21.5	40.5	52	85	27	18	48	88	40	194.5	14	1700
D.75	3/4"BSP	18	27	45	58	100	32	20	57	93	48	224	18	1500
D.100	1"BSP	24	33	54	65	100	41	23	57	100	58	246	18	1200

Typical Installation Form for HW Series Hydraulic Actuated Clutch



Application on marine thrusters



Application in the gearbox of machine tools



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