

TOOTH CLUTCHES

5HP SERIES, PILOT MOUNT TOOTH CLUTCH

The 5HP Series provides:

- ▶ Instantaneous Torque up to 55,000 In. Lbs. @ 80 psi
- ▶ Maximum Operating Speed up to 4,000 rpm
- ▶ **15 Bore** sizes ranging from 0.625 to 3.938 inches
- ▶ Positive engagement in random positions
- ▶ For in-line applications to accommodate misalignment, we recommend use of Nexen Single and Double Flexible Couplings.

10 Models offer design flexibility:

- ▶ Sealed, radial ball bearing
- ▶ **Pilot Mount** design with tapped mounting holes
- ▶ Thru-shaft mounting design uses a full-length keyway
- ▶ Ability to mount a pulley, sprocket or gear on the clutch
- ▶ Ability to use a Flexible Clutch Coupling for in-line shaft coupling applications
- ▶ 8.25 inch flexible hose included.

5HP SERIES, PILOT MOUNT TOOTH CLUTCHES

Model	Product Number	Speeds Up to RPM	Bore (In)	Key Size		# of Teeth	Shipping Wt. (Lbs)	COUPLING ASSEMBLIES	
				WD	x DP			SINGLE FLEX Product Number	DOUBLE FLEX Product Number
5H20P	911300	4000	0.625	0.188	x 0.188	64	6	--	--
5H30P	909900	3700	0.875	0.188	x 0.188	91	7	909980	909981
5H30P	909912	3700	0.750	0.188	x 0.188	91	7	909980	909981
5H35P	910000	3200	1.125	0.250	x 0.250	106	10	910080	910081
5H35P	910011	3200	1.000	0.250	x 0.250	106	10	910080	910081
5H40P	910100	3000	1.250	0.250	x 0.250	122	12	910180	910181
5H40P	910112	3000	1.188	0.250	x 0.250	122	12	910180	910181
5H45P	910200	3000	1.500	0.375	x 0.375	137	16	910280	910281
5H45P	910211	3000	1.438	0.375	x 0.375	137	16	910280	910281
5H50P	910300	3000	1.750	0.375	x 0.375	152	19	910380	910381
5H50P	910311	3000	1.688	0.375	x 0.375	152	19	910380	910381
5H60P	910400	2400	1.938	0.500	x 0.500	183	30	910480	910481
5H70P	910500	2000	2.188	0.500	x 0.500	214	45	910580	910581
5H80P	911700	2000	2.938	0.750	x 0.500	244	70	911780	911781
5H100P	913100	1000	3.938	1.000	x 0.750	328	170	--	--

Keys are customer furnished and must be full-length.

ATTACHMENT OPTIONS

Flexible Coupling Assemblies

Flexible Coupling Assemblies are required for in-line coupling applications and are available in single or double flex designs to provide **high misalignment capabilities with high torque**. Turn to pages 84 and 85 for Flexible Coupling details.

For quick selection of Flexible Couplings, refer to the chart above.

Pulleys, Sprockets, Gears

These can be attached to the clutch for offset shaft applications. Tapped holes are provided for ease of mounting. Nexen does not furnish these items.

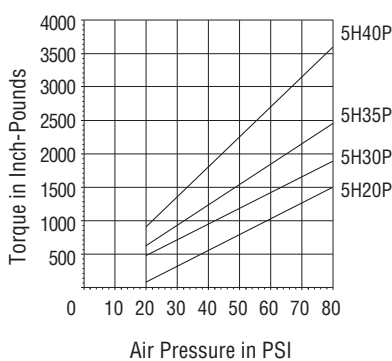
For minimum sprocket requirements, see page 369.

CAUTION!

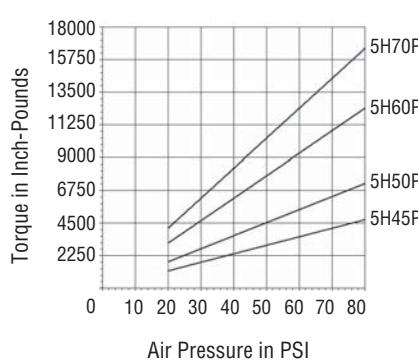
Tooth clutches are normally engaged when stationary. They are not intended for use in most cyclic applications or high speed engagement. In certain circumstances, tooth clutches can be engaged at differential speeds. Please consult Nexen if you are considering an application involving engagement at differential speeds.

TORQUE VS. AIR PRESSURE

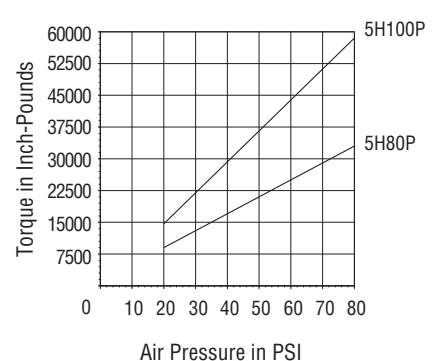
5H20P, 5H30P, 5H35P & 5H40P



5H45P, 5H50P, 5H60P, 5H70P

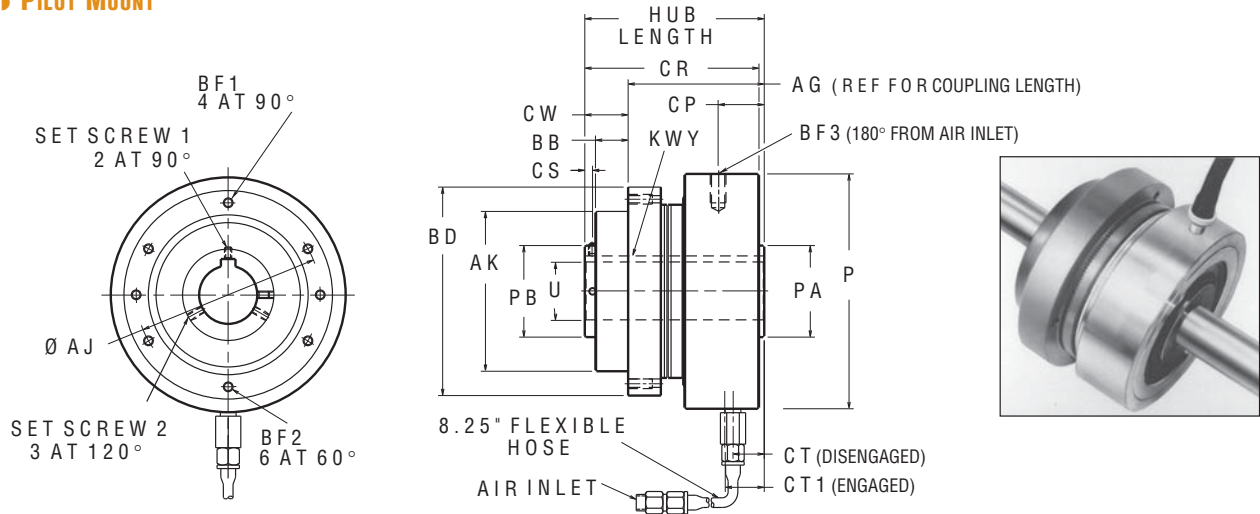


5H80P & 5H100P



5HP SERIES, PILOT MOUNT TOOTH CLUTCHES - APPROXIMATE DIMENSIONS (INCHES)

PILOT MOUNT



MODEL	PRODUCT NUMBER	AIR INLET NPT	HUB LENGTH	AG	AJ	AK \pm .001	BB	BD	BF1	BF2	BF3	CP	CR	CS	CT	CT1	CW	P	PA	PB
5H20P	911300	.125	3.44	2.51	2.750	2.249	0.56	3.12	--	.190-24	--	--	3.75	0.25	0.56	0.62	0.93	3.69	0.98	1.50
5H30P	909900	.125	3.89	2.95	3.437	2.874	0.69	3.88	.250-20	--	--	--	3.85	0.20	0.71	0.78	0.94	4.56	1.38	1.38
5H35P	910000	.125	4.12	3.16	4.062	3.499	0.69	4.50	.250-20	--	--	--	4.06	0.20	0.72	0.80	0.96	5.06	1.77	1.77
5H40P	910100	.125	4.20	3.22	4.250	3.499	0.69	4.88	.250-20	--	--	--	4.17	0.20	0.70	0.76	0.98	5.31	1.76	1.76
5H45P	910200	.125	4.63	3.51	4.750	4.124	0.84	5.38	.250-20	--	--	--	4.49	0.20	0.81	0.88	1.12	6.06	2.36	2.36
5H50P	910300	.125	4.76	3.60	5.250	4.499	0.78	6.00	.312-18	--	--	--	4.61	0.26	0.81	0.88	1.16	6.56	2.56	2.56
5H60P	910400	.125	5.39	4.13	6.125	5.249	0.88	7.00	.312-18	--	--	--	5.18	0.26	1.00	1.08	1.26	7.56	2.95	2.95
5H70P	910500	.250	5.96	4.35	7.000	5.749	1.19	8.25	.500-13	--	.375-16	1.19	5.76	0.26	0.99	1.10	1.61	8.31	3.34	3.34
5H80P	911700	.250	8.62	5.69	8.500	7.374	1.88	9.50	--	.500-13	.375-16	2.26	8.33	0.62	2.27	2.37	2.93	9.25	3.74	5.00
5H100P	913100	.250	10.51	7.46	11.000	8.999	2.00	12.00	--	.500-13	.500-13	3.00	9.46	0.62	3.00	3.07	3.05	12.25	6.50	6.50

MODEL	PRODUCT NUMBER	SET SCREW		KEYWAY		U \pm .000
		1	2	WD	DP	
5H20P	911300	.250-20	--	0.188	0.094	0.625
5H30P	909900	.190-24	--	0.188	0.094	0.875
5H35P	910000	.190-24	--	0.250	0.125	1.125
5H40P	910100	.190-24	--	0.250	0.125	1.250
5H45P	910200	.190-24	--	0.375	0.188	1.500
5H50P	910300	.250-20	--	0.375	0.188	1.750
5H60P	910400	.250-20	--	0.500	0.250	1.937
5H70P	910500	.250-20	--	0.500	0.250	2.187
5H80P	911700	--	.625-11	0.750	0.250	2.937
5H100P	913100	--	.750-10	1.000	0.375	3.937

SINGLE AND DOUBLE FLEXIBLE COUPLING ASSEMBLIES

Both Single and Double Flexible Couplings are available for the 5HP Pilot Mount Tooth Clutch. See the following pages for details.

TOOTH CLUTCHES

“Air Champ”

5HP & 5HP-E CLUTCH FLEXIBLE COUPLING ASSEMBLIES

Couple your shaft to a 5HP or 5HP-E Series Tooth Clutch with a Flexible Coupling Assembly. There are 16 Single Flex and 16 Double Flex Couplings, each designed to fit a specific 5HP or 5HP-E Tooth Clutch. Whatever the design style, you'll get:

- ▶ High Misalignment Capability
 - ▶ Torque ratings up to 128,000 In. Lbs.
 - ▶ Nickel-plated surfaces
 - ▶ Coupling discs made from composite materials provide the benefits of both a steel disc and elastomeric coupling.
- Other benefits include:
- ▶ Corrosion resistant
 - ▶ Requires no lubrication
 - ▶ Coupling adds no backlash to the drive
 - ▶ Provides torsional stiffness
 - ▶ Dampens shock and vibration through the power train
 - ▶ Reverse Bushing Tapers for bushing installation from the inside of the coupling.

Find the Flexible Coupling that matches your clutch and your application specifications on this page.

▶ 5HP, 5HP-E SINGLE & DOUBLE FLEXIBLE COUPLING SELECTION CHART

1. Determine the Tooth Clutch required for your application and find it on the chart below;
2. Find the matching Flexible Coupling Assembly at the top of the column;
3. Double check the Flexible Coupling specifications to ensure conformity with all mating components;
4. A Taper Lock Bushing is required, see chart below for recommended part. This is customer furnished;
5. Clutch and Flexible Coupling Assembly must be ordered separately.

Single Flex #:	909980	910080	910180	910280	910380	910480	910580	911780	913140
Double Flex #:	909981	910081	910181	910281	910381	910481	910581	911781	---

Model Size:	5H30P	5H35P	5H40P	5H45P	5H50P	5H60P	5H70P	5H80P	5H100P
Clutch	909900	910000	910100	910200	910300	910400	910500	911700	913100
Product #:	909912	910011	910112	910211	910311				
Model Size:	5H30P-E	5H35P-E	5H40P-E	5H45P-E	5H50P-E	5H60P-E			
Clutch Product #:	913000	913010	913020	913030	913040	913050			

NOTE: There are no Flexible Couplings for the 5H20P or 5H100P Clutches.

▶ SINGLE & DOUBLE FLEXIBLE COUPLING PRODUCT DETAILS

Single Flex Product Number	Double Flex Product Number	Dodge Taper Lock® Bushing Number	BORE RANGE		Single Flex Shipping Wt. (Lbs)	Single Flex Inertia (lb-in/in)	Double Flex Shipping Wt. (Lbs)	Double Flex Inertia (lb-in/in)
			MIN. (In)	MAX. (In)				
909980	909981	1215	0.500	1.250	8	2.6	10	3.2
910080	910081	1615	0.500	1.625	10	6.7	13	8.2
910180	910181	2012	0.500	2.000	12	14.2	15	17.5
910280	910281	2517	0.500	2.500	14	30.2	16	36.3
910380	910381	2517	0.500	2.500	22	54.3	25	64.3
910480	910481	3030	0.938	3.000	29	240.7	34	285.7
910580	910581	3535	1.188	3.938	70	254.0	82	629.3
911780	911781	4040	1.438	4.438	110	293.0	130	726.0
913140	---	4545	1.938	4.938	152	301.1	---	---

▶ SINGLE FLEXIBLE COUPLING MISALIGNMENT CAPACITY

Product Number	Angular (Degrees)	Axial (In)	Parallel (In)
909980	1.5	0.065	0.011
910080	1.5	0.070	0.012
910180	1.5	0.080	0.013
910280	1.5	0.090	0.014
910380	1.5	0.105	0.017
910480	1.5	0.120	0.019
910580	1.5	0.135	0.022
911780	1.5	.0135	0.026
913140	2.0	0.216	0.012

▶ DOUBLE FLEXIBLE COUPLING MISALIGNMENT CAPACITY

Product Number	Angular (Degrees)	Axial (In)	Parallel (In)
909981	3.0	0.130	0.063
910081	3.0	0.140	0.078
910181	3.0	0.160	0.085
910281	3.0	0.180	0.091
910381	3.0	0.210	0.104
910481	3.0	0.240	0.117
910581	3.0	0.270	0.137
911781	3.0	0.310	0.170

NOTE: If parallel, angular and axial misalignment are all required, be certain that the combined percentage of each does not exceed 100%. For instance, if 100% of the parallel misalignment rating is required, no angular or axial misalignment is allowed. If 50% of the parallel misalignment rating is required, only 50% of the angular misalignment OR 50% of the axial rating will be available.

▶ REVERSE BUSHING TAPERED COUPLINGS

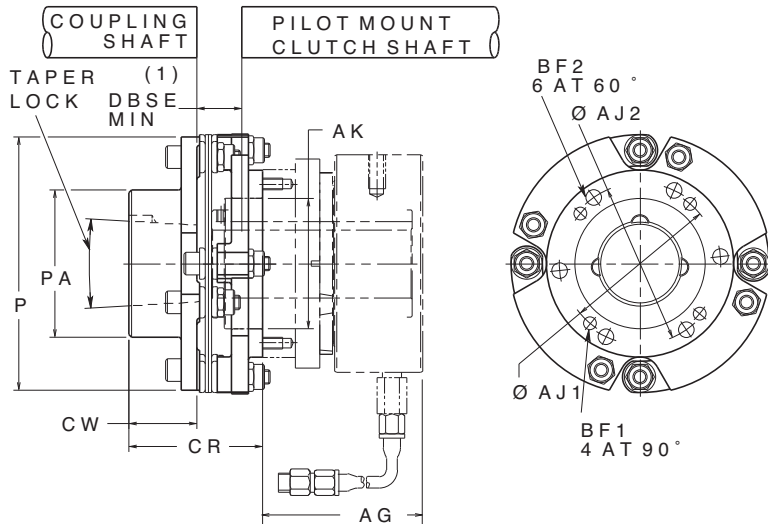
Single Flex #:	909984	910084	910184	910284	910384	910484	910584	911784
Double Flex #:	909985	910085	910185	910285	910385	910485	910585	911785

Model Size:	5H30P	5H35P	5H40P	5H45P	5H50P	5H60P	5H70P	5H80P
Clutch	909900	910000	910100	910200	910300	910400	910500	911700
Product #:	909912	910011	910112	910211	910311			
Model Size:	5H30P-E	5H35P-E	5H40P-E	5H45P-E	5H50P-E	5H60P-E		
Clutch Product #:	913000	913010	913020	913030	913040	913050		

NOTE: There are no Flexible Couplings for the 5H20P Clutches.

5HP, 5HP-E SERIES FLEXIBLE COUPLING ASSEMBLIES - APPROXIMATE DIMENSIONS (INCHES)

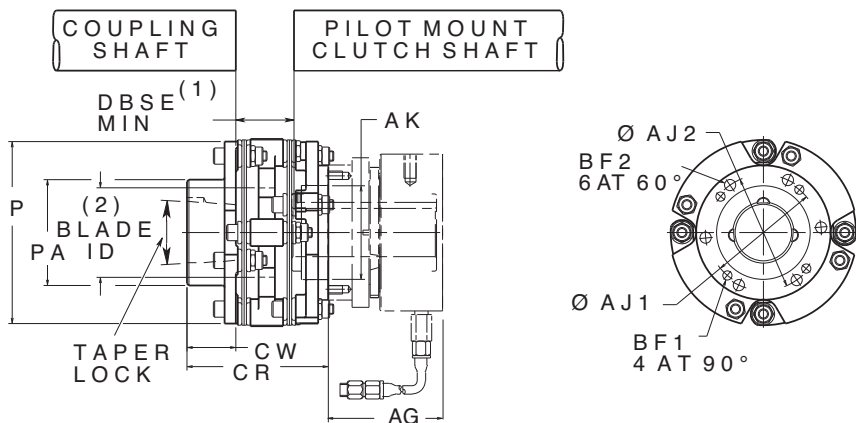
▶ SINGLE FLEX



DBSE (1) = Distance Between Shaft Ends. Less than MIN requires equipment removal for service; the MAX distance is dependent on the clutch.

PRODUCT NUMBER	5HP AG	5HP-E AG	AJ1	AJ2	AK ^{+0.001} / _{-0.000}	HOLE SIZE		BF1 BOLT SIZE	BF2 BOLT SIZE	CR	CW	P	PA	DBSE	
						BF1	BF2							MIN.	MAX.
909980	2.95	3.80	3.437	3.562	2.875	0.265	0.327	.250-20 x 1.00	.312-18 x 1.25	2.95	1.50	5.75	3.25	0.39	0.51
910080	3.16	3.97	4.062	4.062	3.500	0.265	0.327	.250-20 x 1.00	.312-18 x 1.25	3.17	1.50	6.38	3.88	0.52	0.71
910180	3.22	3.85	4.250	4.250	3.500	0.265	0.327	.250-20 x 1.25	.312-18 x 1.25	2.97	1.25	6.75	4.38	0.59	0.74
910280	3.51	4.35	4.750	4.750	4.125	0.265	0.390	.250-20 x 1.25	.375-16 x 1.50	3.70	1.75	7.25	4.88	0.59	0.83
910380	3.60	4.72	5.250	5.375	4.500	0.327	0.515	.312-18 x 1.25	.500-13 x 1.50	4.61	2.50	8.38	5.00	0.86	1.45
910480	4.13	4.92	6.125	6.125	5.250	0.327	0.515	.312-18 x 1.50	.500-13 x 1.75	5.31	3.00	9.50	5.75	0.88	1.07
910580	4.35	—	7.000	7.000	5.750	0.515	0.640	.500-13 x 1.75	.625-11 x 2.00	6.23	3.53	11.38	6.75	1.02	1.09
911780	5.69	—	8.500	8.500	7.375	0.515	0.640	.500-13 x 2.50	.625-11 x 2.75	7.95	4.12	13.12	7.50	1.06	1.06
913140	7.46	—	11.000	11.000	9.000	0.531	0.781	.500-13 x 2.50	M24-3 x 140	9.33	4.63	14.84	9.00	1.85	1.85

▶ DOUBLE FLEX



DBSE (1) = Distance Between Shaft Ends. Less than MIN requires equipment removal for service; the MAX distance is dependent on the clutch.

(2) Blade ID is the diameter of the hole in the intermediate member.

PRODUCT NUMBER	5HP AG	5HP-E AG	AJ1	AJ2	AK ^{+0.001} / _{-0.000}	HOLE SIZE		BF1 BOLT SIZE	BF2 BOLT SIZE	CR	CW	P	PA	BLADE ID (2)	DBSE	
						BF1	BF2								MIN.	MAX.
909981	2.95	3.80	3.437	3.562	2.875	0.265	0.327	.250-20 x 1.00	.312-18 x 1.25	4.34	1.50	5.75	3.25	2.75	1.78	1.90
910081	3.16	3.97	4.062	4.062	3.500	0.265	0.327	.250-20 x 1.00	.312-18 x 1.25	4.86	1.50	6.38	3.88	3.00	2.20	2.40
910181	3.22	3.85	4.250	4.250	3.500	0.265	0.327	.250-20 x 1.25	.312-18 x 1.25	4.81	1.25	6.75	4.38	3.12	2.44	2.58
910281	3.51	4.35	4.750	4.750	4.125	0.265	0.390	.250-20 x 1.25	.375-16 x 1.50	5.70	1.75	7.25	4.88	3.38	2.59	2.83
910381	3.60	4.72	5.250	5.375	4.500	0.327	0.515	.312-18 x 1.25	.500-13 x 1.50	6.92	2.50	8.38	5.00	4.12	3.17	3.75
910481	4.13	4.92	6.125	6.125	5.250	0.327	0.515	.312-18 x 1.50	.500-13 x 1.75	7.89	3.00	9.50	5.75	4.38	3.45	3.63
910581	4.35	—	7.000	7.000	5.750	0.515	0.640	.500-13 x 1.75	.625-11 x 2.00	9.28	3.53	11.38	6.75	5.25	3.81	4.14
911781	5.69	—	8.500	8.500	7.375	0.515	0.640	.500-13 x 2.50	.625-11 x 2.75	11.72	4.12	13.12	7.50	6.00	4.67	4.67