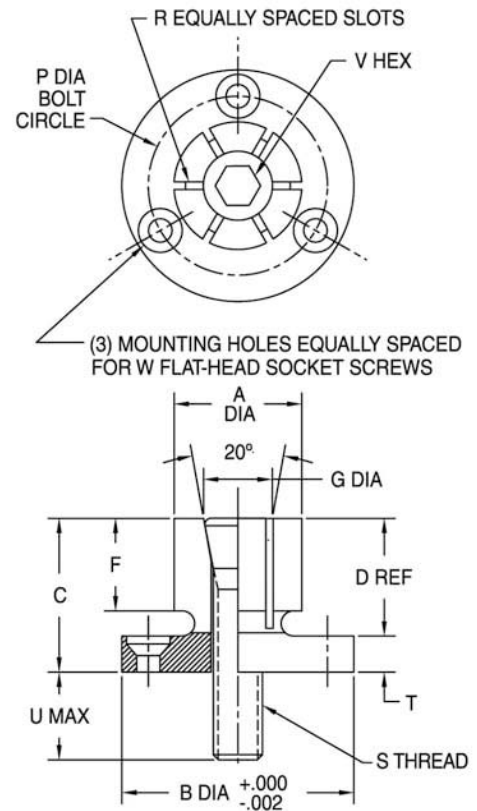


ID CLAMPS

BODY: 1215 STEEL, BLACK OXIDE FINISH
 CENTER SCREW: ALLOY STEEL, BLACK OXIDE FINISH
 MOUNTING SCREWS: ALLOY STEEL, BLACK OXIDE FINISH



ID Clamps expand to self-center and clamp on the inside diameter of a workpiece, leaving the outside clear for machining. Tightening the tapered center screw with a hex wrench pushes the clamping segments outward, and slightly downward, to exert force on the workpiece's internal bore. These clamps are designed to have their outside diameter finish machined by the customer to suit the bore size, because maximum diameter expansion is limited (.006 to .025", depending on the size). ID Clamps allow close mounting for multi-part machining on vertical and horizontal machining centers. Available in seven sizes to hold any inside diameter from .26" to 2.06". Made in USA.

For maximum locational accuracy, machine a recess in the fixture base to fit exactly with the clamp's close-tolerance flange diameter. Flat-head mounting screws are furnished. Please note, ID Clamps provide mostly radial clamping force; therefore the workpiece must be firmly supported underneath – by resting directly on the clamp's mounting flange, the fixture base, or fixed rest pads.

Before finish machining the clamp's outside diameter on a lathe or milling machine, expand the clamp slightly (.002 - .003") from its relaxed diameter by tightening the tapered center screw. Secure with a jam nut if necessary. Reduce the outside diameter only as much as required to achieve smooth workpiece loading, always staying within the expansion range for that clamp size.

INCH

PART NO.	A DIA		B DIA	C	D	F	G DIA	P DIA	R	S	T	U	V	W	DIAMETER EXPANSION RANGE	RECOM- MENDED TORQUE (FT-LBS)	RADIAL HOLDING FORCE (LBS)
	BEFORE MACHINING	MINIMUM AFTER MACHINING															
CL-8-IDC	.500	.260	1.170	.86	.63	.57	.24	.825	4	#8-32	.230	.29	7/64	#6-32	.006	3.6	950
CL-9-IDC	.560	.370	1.240	.99	.76	.58	.36	.910	4	1/4-20	.230	.53	3/16	#6-32	.008	13	1900
CL-13-IDC	.813	.440	1.476	1.00	.77	.59	.43	1.140	6	5/16-18	.230	.60	1/4	#6-32	.010	28	2500
CL-18-IDC	1.125	.580	1.968	1.14	.90	.69	.57	1.550	6	3/8-16	.245	.77	5/16	#8-32	.014	49	4500
CL-22-IDC	1.390	.710	2.205	1.25	1.00	.81	.70	1.790	6	1/2-13	.250	.78	3/8	#8-32	.017	120	5900
CL-27-IDC	1.688	.910	2.736	1.56	1.25	1.06	.87	2.200	6	5/8-11	.310	.84	1/2	#10-32	.020	224	10000
CL-33-IDC	2.063	.910	2.972	1.56	1.25	1.06	.87	2.515	6	5/8-11	.310	.85	1/2	#10-32	.025	224	10000