

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Units	Notes
Storage Temperature	T_S	-40	+85	°C	
Operating Temperature	T_A	0	+70	°C	
Vibration			20	g	20 Hz to 2 kHz
Supply Voltage	V_{CC}	-0.5	7	V	
Output Voltage	V_O	-0.5	V_{CC}	V	
Output Current Per Channel	I_O	-1	5	mA	
Shaft Load – Axial			4.0	N	10^6 Revolutions
Shaft Load – Radial			0.1	Nm	10^6 Revolutions
Revolution Life		10^6		Rev	At Maximum Loads

Recommended Operating Conditions

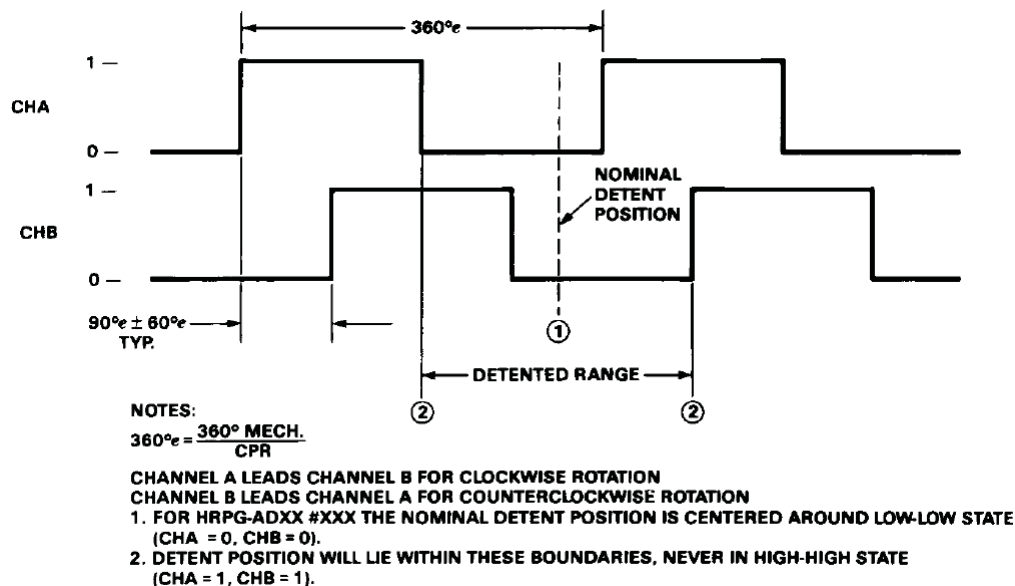
Parameter	Symbol	Min.	Max.	Units	Notes
Temperature	T	0	+70	°C	Noncondensing Atmosphere
Supply Voltage	V_{CC}	4.5	5.5	V	Ripple < 100 mV _{P-P}
Rotation Speed – Detented			200	RPM	
– Smooth			300	RPM	

Electrical Characteristics

Over Recommended Operating Range

Parameter	Symbol	Min.	Max.	Units	Notes
Supply Current	I_{CC}		40	mA	
High Level Output Voltage	V_{OH}	2.4		V	$I_{OH} = -40 \mu A$ Max.
Low Level Output Voltage	V_{OL}		0.4	V	$I_{OL} = 3.2$ mA

Output Waveforms



Mechanical Configurations

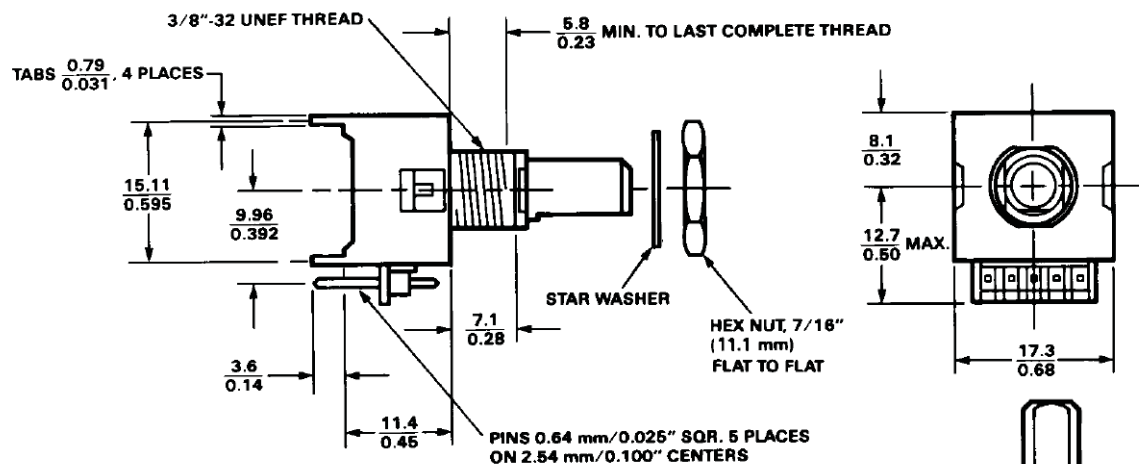
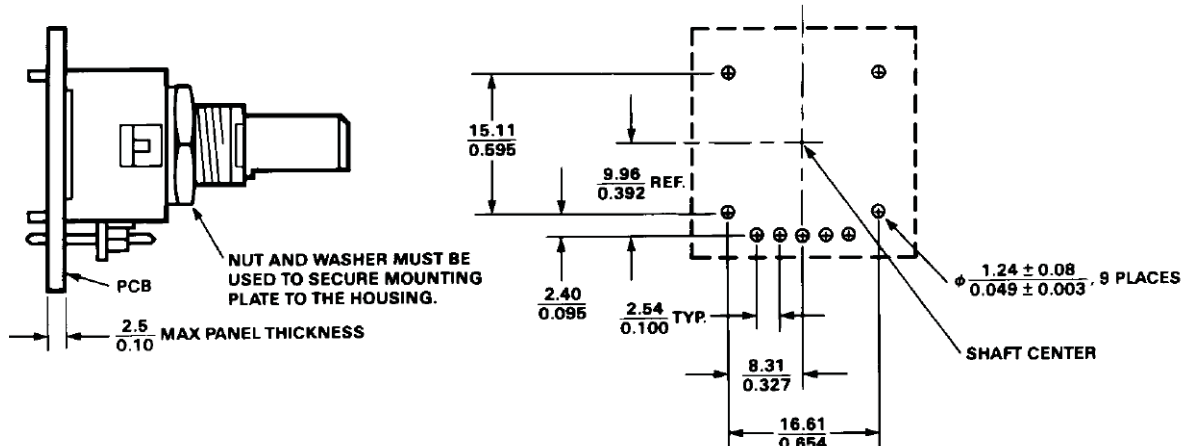
Termination Options

Option R – Pins Rear with Bracket

HRPG-AXXX#XXR

SUGGESTED CONFIGURATION

PCB MOUNTING DIMENSIONS



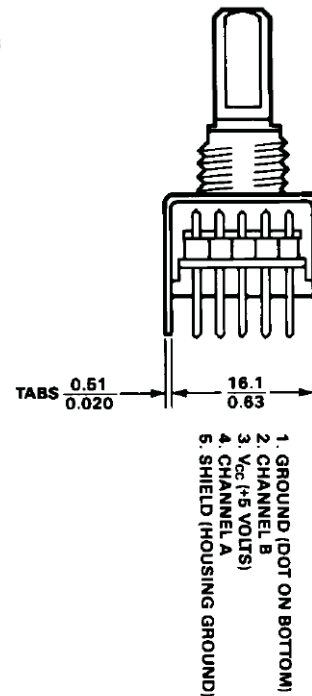
NOTES:

DIMENSIONS ARE: $\frac{\text{mm}}{\text{INCHES}}$

TOLERANCES ARE: $X \pm 0.25 \text{ mm}$
 $.XX \pm 0.01''$

$.XX \pm 0.13 \text{ mm}$
 $.XXX \pm 0.005''$

SHIELD IS FOR HOUSING ESD PATH ONLY

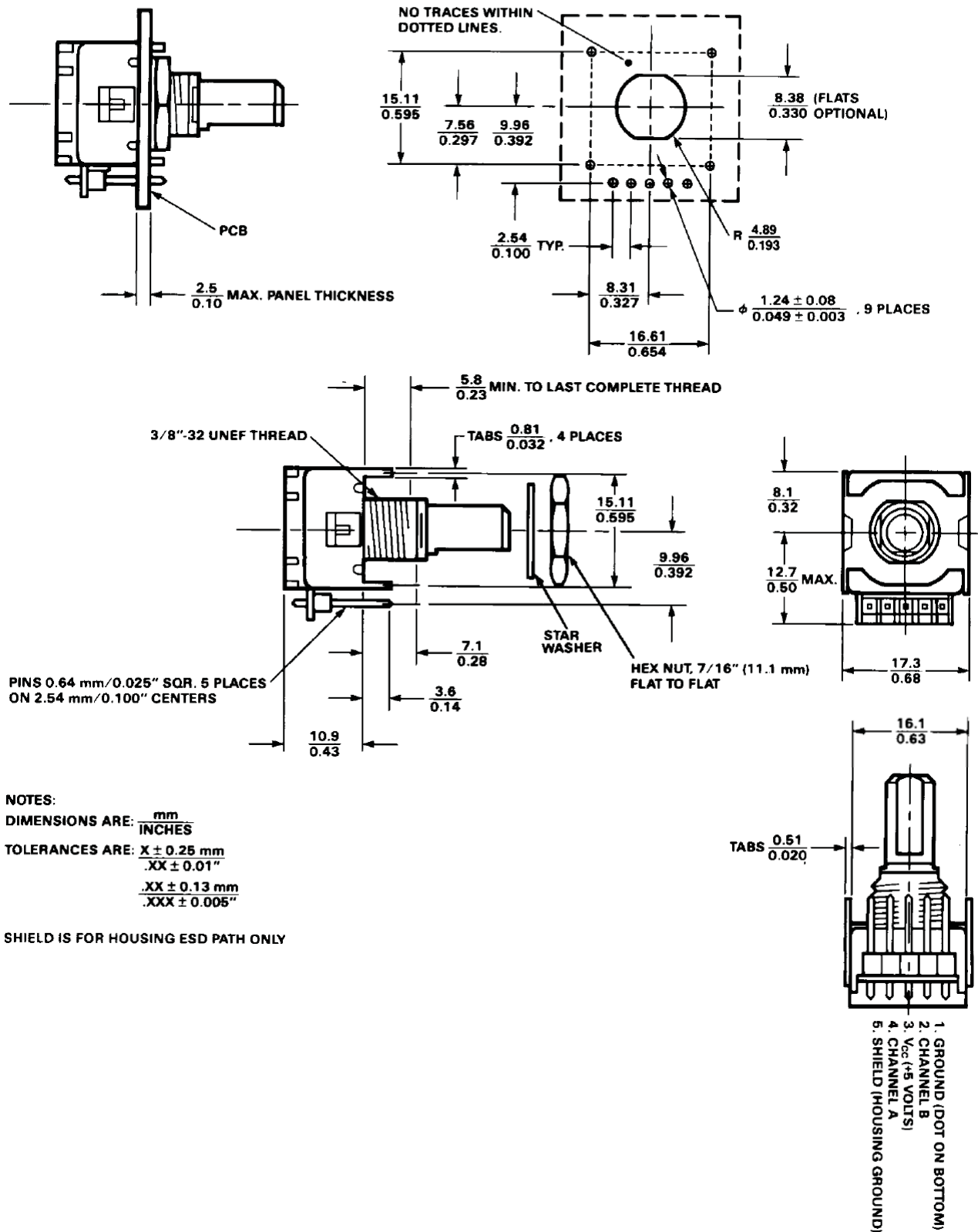


Option F – Pins Front with Bracket

HRPG-AXXX#XXF

SUGGESTED CONFIGURATION

PCB MOUNTING DIMENSIONS



NOTES:

DIMENSIONS ARE: $\frac{\text{mm}}{\text{INCHES}}$

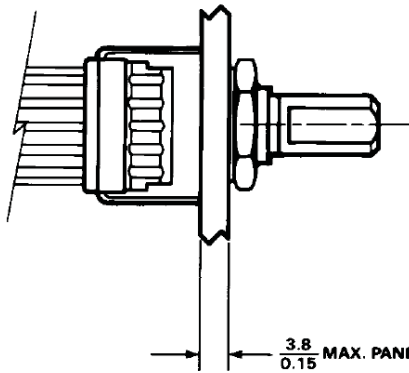
TOLERANCES ARE: $X \pm 0.25 \text{ mm}$
 $.XX \pm 0.01"$
 $.XX \pm 0.13 \text{ mm}$
 $.XXX \pm 0.005"$

SHIELD IS FOR HOUSING ESD PATH ONLY

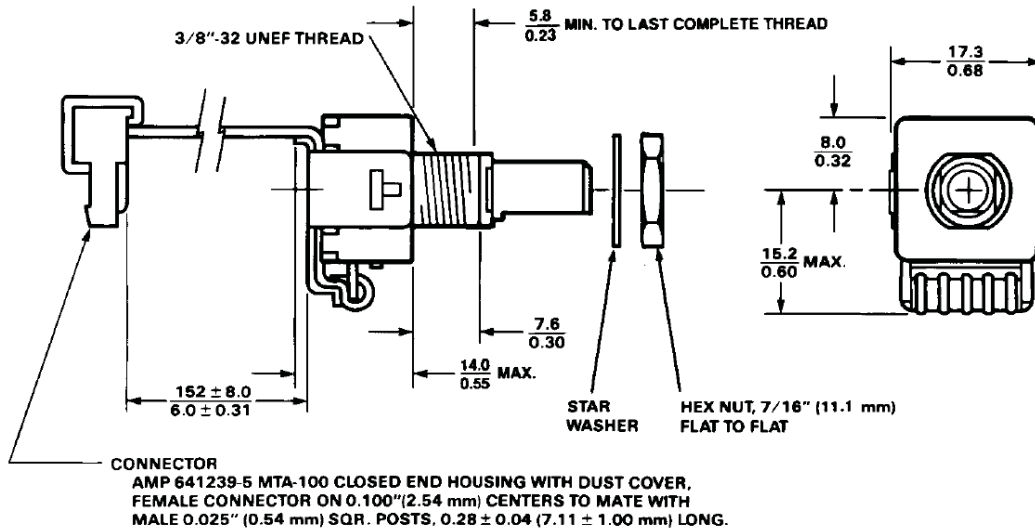
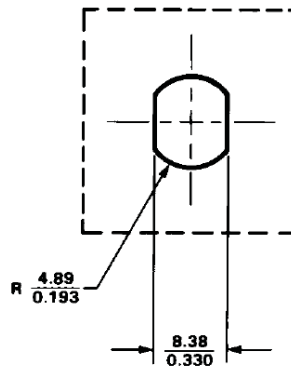
Option C – Cable Connector with Strain Relief

HRPG-AXXX#XXC

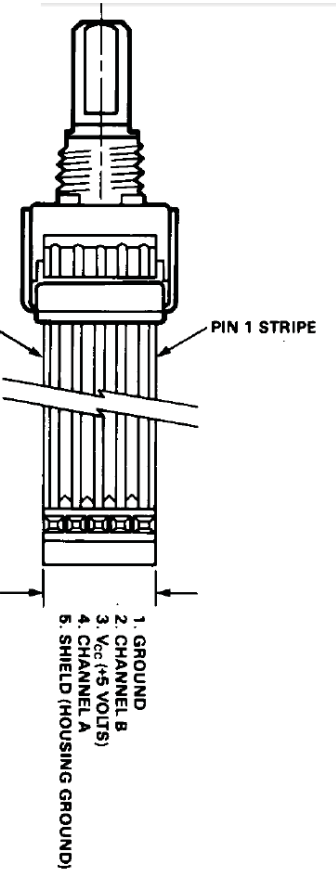
SUGGESTED CONFIGURATION



PANEL HOLE DIMENSIONS



0.100" (2.54 mm) CENTERS, ROUND CONDUCTOR FLAT CABLE
GRAY PVC INSULATION



NOTES:

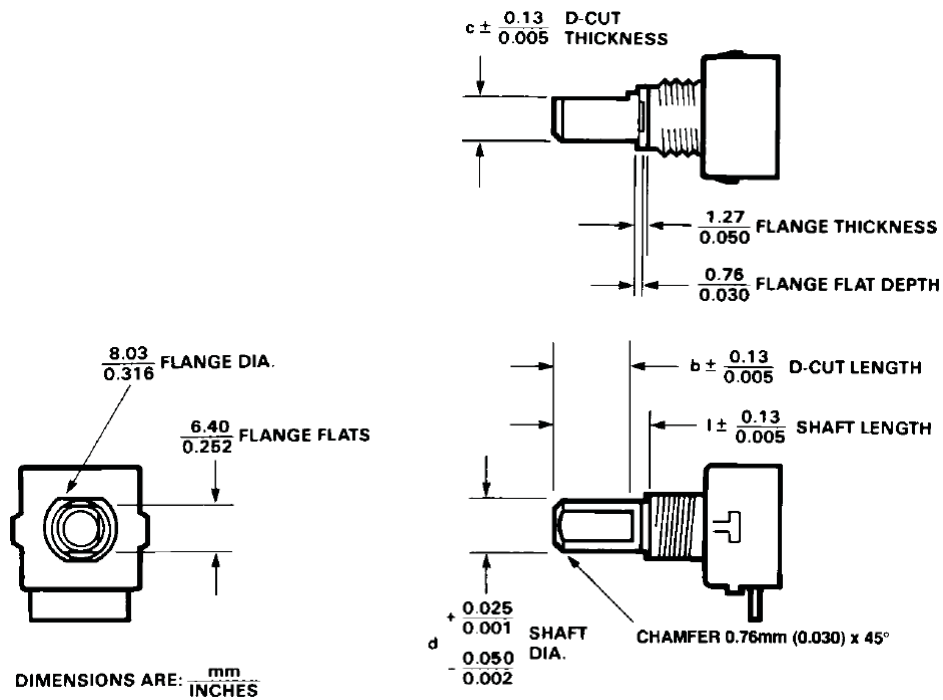
DIMENSIONS ARE: $\frac{\text{mm}}{\text{INCHES}}$

TOLERANCES ARE: $X \pm 0.25 \text{ mm}$
 $.XX \pm 0.01"$
 $.XX \pm 0.13 \text{ mm}$
 $.XXX \pm 0.005"$





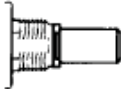

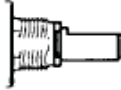

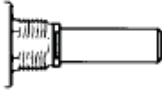

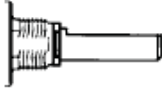





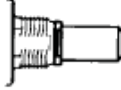

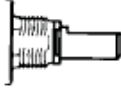

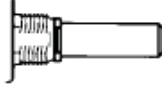

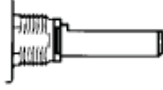

SHIELD IS FOR HOUSING ESD PATH ONLY

Shaft Configurations

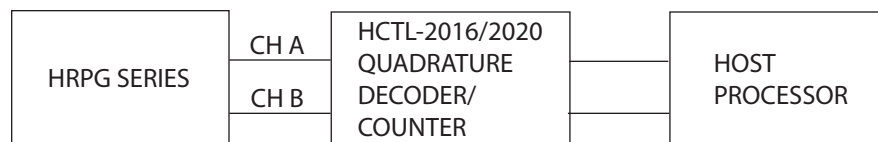
Shaft Dimensions (D-cut shown also)



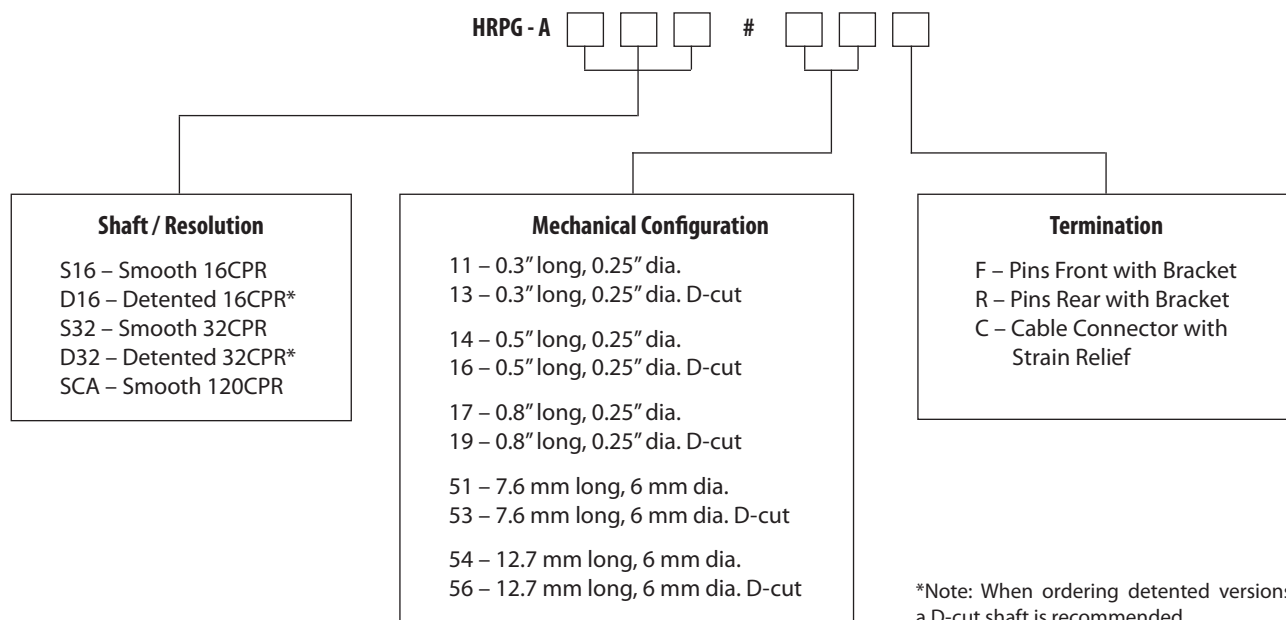
Shaft Options Available

Option #	Shaft Length (l)	Shaft Diameter (d)	D-Cut Thickness (c)	D-Cut Length (b)	Sketch (not to scale)	
11	0.30"	0.251"	–	–		
13	0.30"	0.250"	0.225"	0.230"		
14	0.50"	0.251"	–	–		
16	0.50"	0.250"	0.225"	0.400"		
17	0.80"	0.251"	–	–		
19	0.80"	0.250"	0.225"	0.700"		
51	7.6 mm	6.02 mm	–	–		
53	7.6 mm	6.00 mm	5.33 mm	5.84 mm		
54	12.7 mm	6.02 mm	–	–		
56	12.7 mm	6.00 mm	5.33 mm	10.16 mm		
57	20.32 mm	6.02 mm	–	–		
59	20.32 mm	6.00 mm	5.33 mm	17.78 mm		

Typical Interface



Ordering Information



HRPG Series		11	13	14	16	17	19	51	53	54	56	57	59
AD16	F				*					*	*		*
	R				*			*		*			
	C				*						*		
	L												
AD32	F		*	*	*		*	*	*			*	*
	R	*	*	*	*		*		*	*	*		*
	C	*	*	*	*	*		*	*	*	*		*
	L												
AS16	F					*				*			
	R	*							*				
	C			*				*					
	L												
AS32	F	*	*								*		
	R		*	*					*				
	C			*									*
	L												
ASCA	F	*		*	*	*	*		*	*	*	*	*
	R	*	*	*	*	*	*		*	*			
	C	*	*	*	*	*	*		*	*	*		*
	L												

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