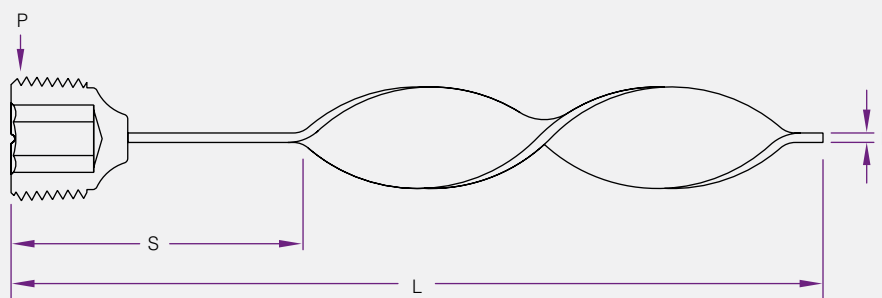
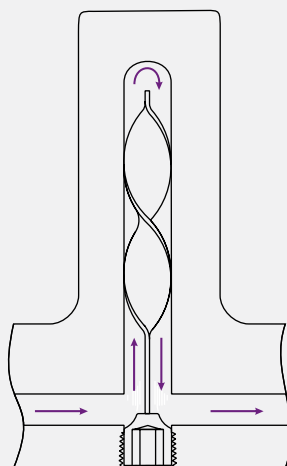


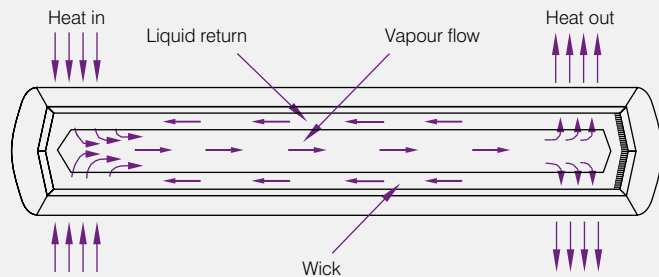
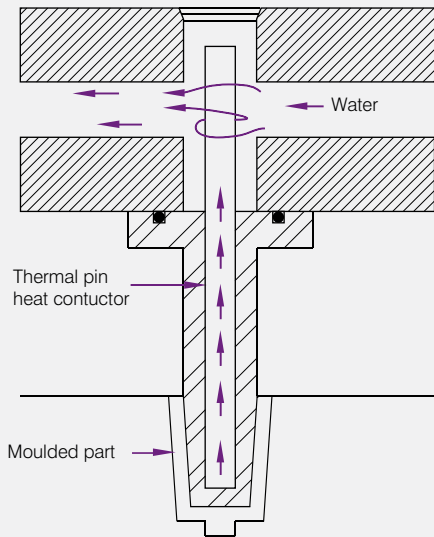
Product Code	P NPT Plug Size	L Length	B Blade Thickness	Blade-.005 Width-.015
CSB16x4	1/16	4	1/16	1/4
CSB16x8	1/16	8	1/16	1/4
CSB18x4	1/8	4	1/16	5/16
CSB18x8	1/8	8	1/16	5/16
CSB14x5	1/4	5	3/32	7/16
CSB14x10	1/4	10	3/32	7/16
CSB38x6	3/8	6	3/32	9/16
CSB38x12	3/8	12	3/32	9/16
CSB12x8	1/2	8	3/32	11/16
CSB12x16	1/2	16	3/32	11/16
CSB34x12	3/4	12	1/8	15/16
CSB34x20	3/4	20	1/8	15/16
CSB1x16	1	16	1/8	1 1/8
CSB1x24	1	24	1/8	1 1/8



Spiral lengthens the cooling path and keeps baffle centred, providing up to 11% greater flow rate.



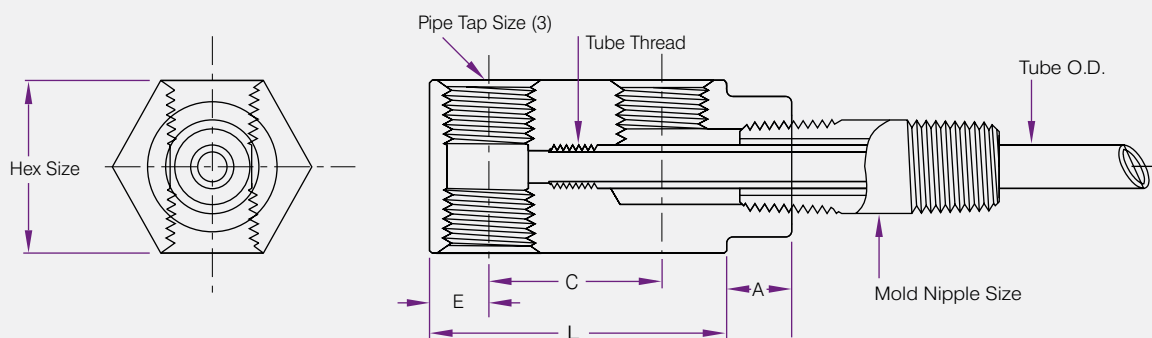
Product Code	P NPT Plug Size	L Length	S Straight Length	B Blade Thickness	Blade-.005 Width-.015
CTB16x4	1/16	4	2	1/16	1/4
CTB16x8	1/16	8	4	1/16	1/4
CTB18x4	1/8	4	2	1/16	5/16
CTB18x8	1/8	8	4	1/16	5/16
CTB14x5	1/4	5	2	3/32	7/16
CTB14x10	1/4	10	4	3/32	7/16
CTB38x6	3/8	6	2	3/32	9/16
CTB38x12	3/8	12	4	3/32	9/16
CTB12x8	1/2	8	3	3/32	11/16
CTB12x16	1/2	16	5	3/32	11/16
CTB34x12	3/4	12	4	1/8	15/16
CTB34x20	3/4	20	6	1/8	15/16
CTB1x16	1	16	5	1/8	1 1/8
CTB1x24	1	24	8	1/8	1 1/8



Heat Transfer Rods are designed to heat or cool cones, slides and inserts. Heat Transfer Rods conduct temperature over 10,000 times faster than copper.

Heat Transfer Rods operate best when 50% of the overall length is cooled using a water flow. +0.1 to +0.2mm should be up on the rod diameter for the correct fitment. Fitment hole should be drilled.

Length mm	2mm	3mm	4mm	5mm	6mm	8mm
50	HTR2x50	HTR3x50	HTR4x50	HTR5x50	HTR6x50	HTR8x50
55	HTR2x55	HTR3x55	HTR4x55	HTR5x55	HTR6x55	
60	HTR2x60	HTR3x60	HTR4x60	HTR5x60	HTR6x60	HTR8x60
65	HTR2x65	HTR3x65	HTR4x65	HTR5x65	HTR6x65	
70	HTR2x70	HTR3x70	HTR4x70	HTR5x70	HTR6x70	HTR8x70
75	HTR2x75	HTR3x75	HTR4x75	HTR5x75	HTR6x75	HTR8x75
80	HTR2x80	HTR3x80	HTR4x80	HTR5x80	HTR6x80	
85	HTR2x85	HTR3x85	HTR4x85	HTR5x85	HTR6x85	HTR8x85
90	HTR2x90	HTR3x90	HTR4x90	HTR5x90	HTR6x90	
95	HTR2x95	HTR3x95	HTR4x95	HTR5x95	HTR6x95	HTR8x95
100	HTR2x100	HTR3x100	HTR4x100	HTR5x100	HTR6x100	
105	HTR2x105	HTR3x105	HTR4x105	HTR5x105	HTR6x105	HTR8x105
110	HTR2x110	HTR3x110	HTR4x110	HTR5x110	HTR6x110	
115	HTR2x115	HTR3x115	HTR4x115	HTR5x115	HTR6x115	HTR8x115
120	HTR2x120	HTR3x120	HTR4x120	HTR5x120	HTR6x120	
125	HTR2x125	HTR3x125	HTR4x125	HTR5x125	HTR6x125	HTR8x125
135	HTR2x135	HTR3x135	HTR4x135	HTR5x135	HTR6x135	
145	HTR2x145	HTR3x145	HTR4x145	HTR5x145	HTR6x145	HTR8x145
155	HTR2x155	HTR3x155	HTR4x155	HTR5x155	HTR6x155	
165		HTR3x165	HTR4x165	HTR5x155	HTR6x165	HTR8x165
185		HTR3x185	HTR4x185	HTR5x185	HTR6x185	HTR8x185
205		HTR3x205	HTR4x205	HTR5x205	HTR6x205	HTR8x205

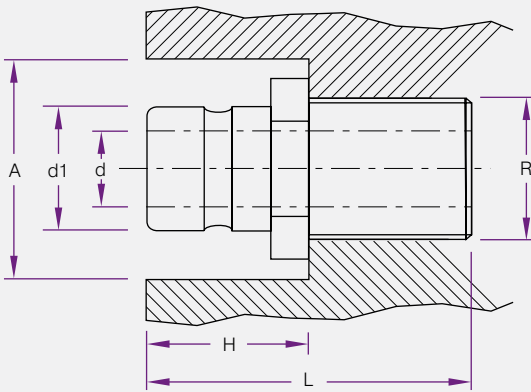


Hales Cascade Assemblies include a brass head, 12" brass tube, 2" long galvanized pipe nipple and brass pipe plug.

Product Code	Mould Nipple (NPT)	Pipe Tap Size (NPT)	Brass Tube O.D.	Hex Size	E	C	A	L
CM16N	1/8	1/16	3/16	3/4	7/32	1/2	9/32	15/16
CM186N	1/8	1/8	3/16	7/8	21/64	11/16	9/32	1 11/32
CM181N	1/8	1/8	3/16	7/8	21/64	1	9/32	1 21/32
CM146N	1/4	1/8	1/4	1	21/64	11/16	7/32	1 11/32
CM146N-4	1/4	1/4	1/4	1	21/64	11/16	7/32	1 11/32
CM141N	1/4	1/8	1/4	1	21/64	1	7/16	1 21/32
CM141N-1	1/4	1/4	1/4	1	21/64	1	7/16	1 21/32
CM381N	3/8	1/8	5/16	1	11/32	1	13/32	1 11/16
CM381N-4	3/8	1/4	5/16	1	11/32	1	13/32	1 11/16
CM121N-4	1/2	1/4	7/16	1 1/4	13/32	1	9/16	1 13/16
CM341N-4	3/4	3/8	5/8	1 1/2	1/2	1 1/4	3/4	2 1/4



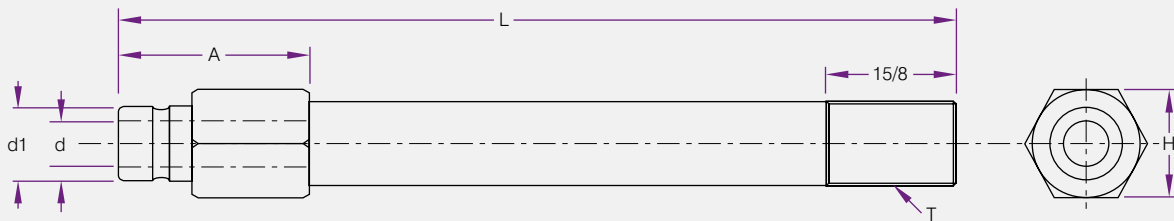
\*Also available with internal valve, specify "V".



Product Code	Series	R (BSPT)	D1	H	A	L
CM251	200 Series 1/4 Flow	1/8	9	17	22	25
CM252		1/4	9	19	26	29
CM253		3/8	9	19	30	30
CM351	300 Series 3/8 Flow	1/8	13	25	26	35
CM352*		1/4	13	25	26	35
CM353*		3/8	13	26	30	38
CM354		1/2	13	28	37	42
CM552	500 Series 1/2 Flow	1/4	20	37	30	41
CM553		3/8	20	37	32	41
CM554		1/2	20	38	32	39
CM556		3/4	20	38	38	45



Product Code	Description
CM200	200 Series Viton
CM300B	300 Series Viton
CM300R	300 Series Silicone
CM500	500 Series Silicone



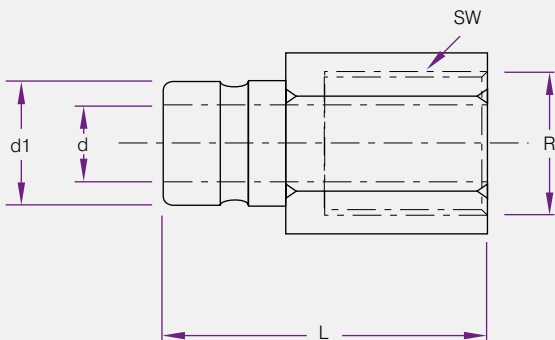
Hales Brass Extensions offer the flexibility of a long thread, making precise adjustments easy.

200 Series 1/4 Flow					
Product Code	L	T	d	d1	A
CM251212	2 1/2	1/8	1/4	3/8	11/16
CM2514	4	1/8	1/4	3/8	1
CM251512	5 1/2	1/8	1/4	3/8	1
CM2517	7	1/8	1/4	3/8	1
CM251812	8 1/2	1/8	1/4	3/8	1
CM252212	2 1/2	1/4	1/4	3/8	7/8
CM2524	4	1/4	1/4	3/8	1 1/4
CM252512	5 1/2	1/4	1/4	3/8	1 1/4
CM2527	7	1/4	1/4	3/8	1 1/4
CM252812	8 1/2	1/4	1/4	3/8	1 1/4
CM253212	2 1/2	3/8	1/4	3/8	1
CM2534	4	3/8	1/4	3/8	1 1/4
CM253512	5 1/2	3/8	1/4	3/8	1 1/4
CM2537	7	3/8	1/4	3/8	1 1/4

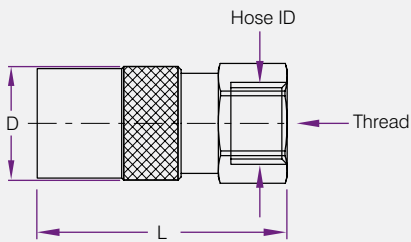
300 Series 3/8 Flow					
Product Code	L	T	d	d1	A
CM351212	2 1/2	1/8	3/8	1/2	7/8
CM3514	4	1/8	3/8	1/2	1
CM351512	5 1/2	1/8	3/8	1/2	1
CM3517	7	1/8	3/8	1/2	1
CM351812	8 1/2	1/8	3/8	1/2	1
CM352212	2 1/2	1/4	3/8	1/2	7/8
CM3524	4	1/4	3/8	1/2	1 1/4
CM352512	5 1/2	1/4	3/8	1/2	1 1/4
CM3527	7	1/4	3/8	1/2	1 1/4
CM352812	8 1/2	1/4	3/8	1/2	1 1/4
CM35210	10	1/4	3/8	1/2	1 1/4
CM3534	4	3/8	3/8	1/2	1
CM353512	5 1/2	3/8	3/8	1/2	1 1/4
CM3537	7	3/8	3/8	1/2	1 1/4
CM35310	10	3/8	3/8	1/2	1 1/4



Product Code	Series	R Thread	d	d1	L	SW
CMT251	200 Series	1/8				
CMT252		1/4				
CMT253		3/8				
CMT352	300 Series	1/4				
CMT353		3/8				
CMT354		1/2				
CMT554	500 Series	1/2				
CMT556		3/4				

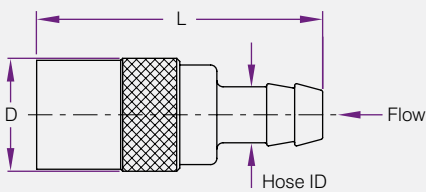


Product Code	Series	R Thread	d	d1	L	SW
CM251F	200 Series	1/8	6	9	28	13
CM252F		1/4	6	9	32	17
CM253F		3/8	6	9	34	19
CM352F	300 Series	1/4	9	13	37	17
CM353F		3/8	9	13	39	19
CM354F		1/2	9	13	46	24



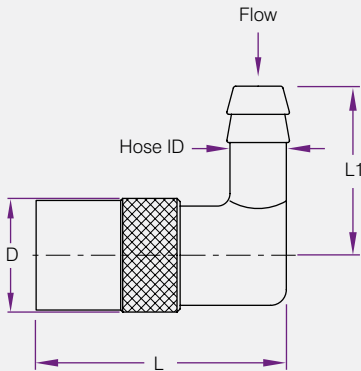
Product Code without Valve	Product Code with Valve	Hose ID	Thread	L	D	Series
CMB300	CMB300V		1/4	47	23	300
CMB500			1/2			500

Straight Socket Connectors

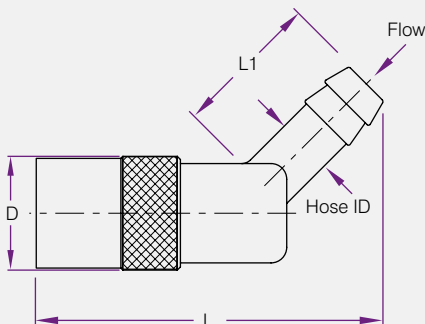


Product Code without Valve	Product Code with Valve	Product Code Valve Seal Only	Hose ID	Flow	L	D	Series
CM206	CM206V	200V	3/8	1/4	51mm	17	200
CM306	CM306V	300V	3/8	1/4	64mm	23	300
CM308	CM308V	300V	1/2	3/8	66.5mm	23	300
CM308SL	CM308VSL	300V	1/2	3/8			300
CM506	CM506V	500V	3/4	5/8	89mm	30	500

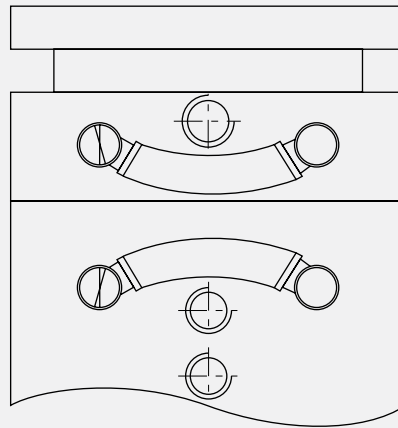
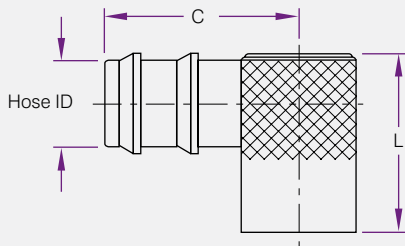




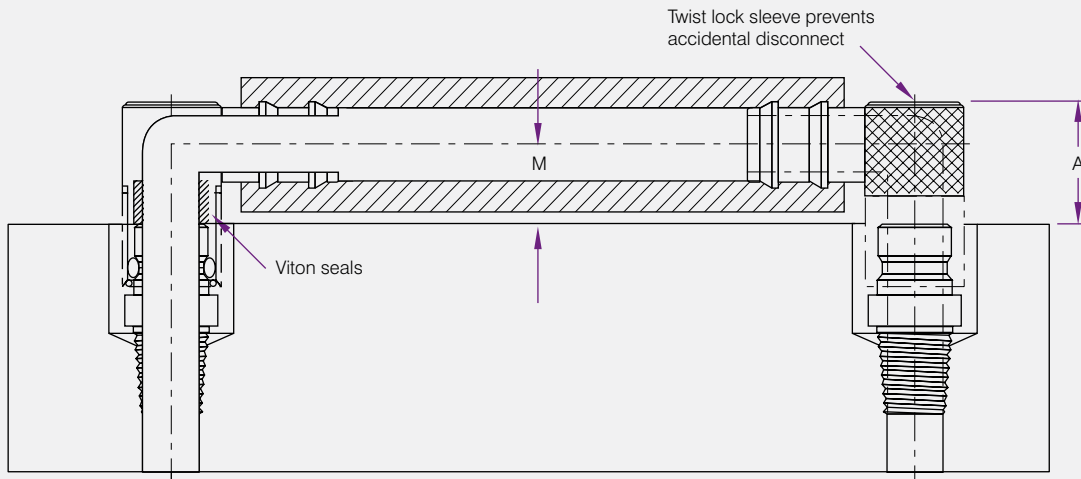
Product Code without Valve	Product Code with Valve	Hose ID	Flow	L	L1	D	Series
CM216	CM216V	3/8	1/4	40mm	22mm	17	200
CM318	CM318V	1/2	3/8	56mm	28.5mm	23	300
CM516	CM516V	3/4	5/8	77mm	32mm	30	500



Product Code without Valve	Product Code with Valve	Hose ID	Flow	L	L1	D	Series
CM226	CM226V	3/8	1/4	55.5mm	22mm	18	200
CM328	CM328V	1/2	3/8	75mm	25mm	24	300
CM526	CM526V	3/4	5/8	77mm	30mm	32	500



Hales Water Jumpers offer smooth unrestricted flow paths and consistent coolant flow rate, eliminating crimped hoses.



Product Code	FHS Series	Hose ID	L	C	M	A
WJ200-6	200	3/8	1	1 1/4	3/8	5/8
WJ300-6	300	3/8	1 7/16	1 9/16	1/2	7/8
WJ300-8	300	1/2	1 7/16	1 9/16	1/2	7/8