

MOLD COOLING & MONITORING SYSTEM

Guide Book for Die Casting

PATENT
PENDING



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RAGA ENGINEERS
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25
YEARS

GLOBAL PRESENCE



350+

Satisfied
Customers

17

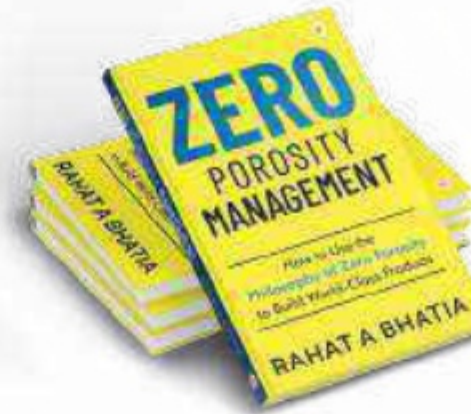
Countries

80

Team
Members

26

Years



Hi,

I am Rahat A Bhatia,

- ✓ Asia's #1 Die Casting Mold Cooling Expert
- ✓ 25+ years of Global experience in Controlling & Monitoring Die Casting Processes
- ✓ Helped 350+ die casters **reduce casting rejections and increase mold life across** 17 countries, including South East Asia, Europe & Americas
- ✓ Author of upcoming book "Zero Porosity Management"
- ✓ Regular Tech-talks at ALUCAST (Aluminium casters association of India) on Die-Casting innovations
- ✓ Been Subject speaker at NADCA USA
- ✓ We hold Multiple Global Patented Solutions in Die Casting Industry
- ✓ Contributing my services as Vice Chairman Alucast (Aluminum Casters Association of India)





RAGA NEX

Proven & reliable technology for minimizing shrinkage porosity in thin sections & around core pin in a die casted part.

Casters trust this plug & play machine due to its optimal cost-performance & almost nil maintenance.

Machine conforms to international standards & spares.



RAGA TRIO

We call it TRIO, world's first centralized jet cooling machine. Integrates with up to 3 Die Casting Machines simultaneously.

Modern & Sleek Look.

Machine gives high return on investment & consumes less floor space.

Save capital costs. Buy 1 instead of 3.

NEW LAUNCH



RAGA NEXplus

Introducing Process controlled Jet Cooling for

Mega Castings on High Tonnage Die Casting Machines.

Porosity challenges in mega casting are critical and need a highly specialised technology.

For die casters who wish to take their game to unbeatable next levels.

Large (upto 10) systems or recipes for different heat zones.

Inbuilt temperature control & Scale free system making it truly CLOSED LOOP.

Also minimising blockage in lines.

Compatible* for detection of leakage, blockage and breakage of each core pin.

* Monitoring system can be integrated.

NEW LAUNCH



RAGA MODULAR COOLING SYSTEM

One stop solution for Jet, Spot & Line cooling.

Modular Cell innovation for improved process, traceability and predictability.

Temperature controlled closed loop system.

Predict failures like blockage, breakage & leakage for individual core pin and cooling line.

Graphical visualisation of output per shot.

#1 Giga casting cooling solution.

Flexibility for large number of systems or recipes.



RAGA VACMAX

Efficiency and flexibility makes Vacmax series, a uniquely acceptable vacuum system.

Two stage evacuation from shot sleeve & mold add high value in minimizing gas porosity.

Serves purpose & saves you tons of money.



RAGA UNO

The low cost vacuum system UNO welcomes you to the world of vacuum die casting.

Easy to use and maintain.

Plug & play machine serves up to 800 ton die casting machine.

JET COOLING



TECHNICAL SPECIFICATIONS		RAGA HVCU		RAGA TRIO	RAGA NEXplus	RAGA MODULAR COOLING SYSTEM
		PRO	NEX			
CORE PINS COOLED	Nos	20	20 40 60 100	6+6+6 (3 DCM)	20 40 60 100 120 150	8 16 (Per Unit)
COOLING CHANNELS	Nos	2	2 4 6	3	2 4 6 8 10	1 to 10
INBUILT TEMP CONTROLLED		×	×	×	✓	✓
INBUILT DEIONIZER		×	×	×	✓	✓
FLOW RATE MEASURE		×	✓	✓	✓	✓
AIR & WATER PRESSURE MEASURE		✓	✓	✓	✓	✓
CORE PIN BREAKAGE DETECTION		×	✓	✓	✓	✓
CURVE PER CHANNEL DISPLAY		×	✓	✓	✓	✓
ERROR DIAGNOSTIC & RECORDING		×	✓	✓	✓	✓
TOUCH SCREEN HMI		Mitsubishi 7"		Mitsubishi 7"	Mitsubishi/ Siemens 7"	Mitsubishi/ Siemens 9"
DATA STORAGE & TRANSFER MOLD/ PRODUCTION		5/ 200	16/200	16/200	16/200	16/200
WATER TANK (L)		60	-	-	60-300	300 500
FOOT PRINT	m	1.2x0.5	1.0x0.65	1.0x0.65	1.2x0.8	1.3x1.0

VACUUM



TECHNICAL SPECIFICATIONS		RAGA VACMAX	RAGA UNO
VACUUM TANK SIZE	l	250 500 800 1000	300
VACUUM CHANNELS	Nos	2	1
VACUUM EVACUATION SECTION	mm2	2x500 2x800	1x500 1x800
VACUUM PRESSURE IN TANK & CHANNEL MEASURE		✓	✓
VACUUM LEAK TEST		✓	×
CURVE PER CHANNEL DISPLAY		✓	×
ERROR DIAGNOSTIC & RECORDING		✓	×
TOUCH SCREEN HMI		Mitsubishi 7"	Mitsubishi 7"
DATA STORAGE & TRANSFER MOLD/ PRODUCTION		16/200	16/200
FOOT PRINT	m	1.6x0.6 1.9x0.75 2.0x0.8 2.4x0.91	0.8x0.8
DCM	t	Up to 600 Up to 1400 Up to 1800 Up to 2000	Up to 800



RAGA COMBO DUAL TECHNOLOGY

Jet Cooling + Vacuum

COMBO is a breakthrough concept.
world's first combined solution for
jet cooling and vacuuming.

Modern yet simple. Efficient & flexible
operation gives ultra high value to
die casters.

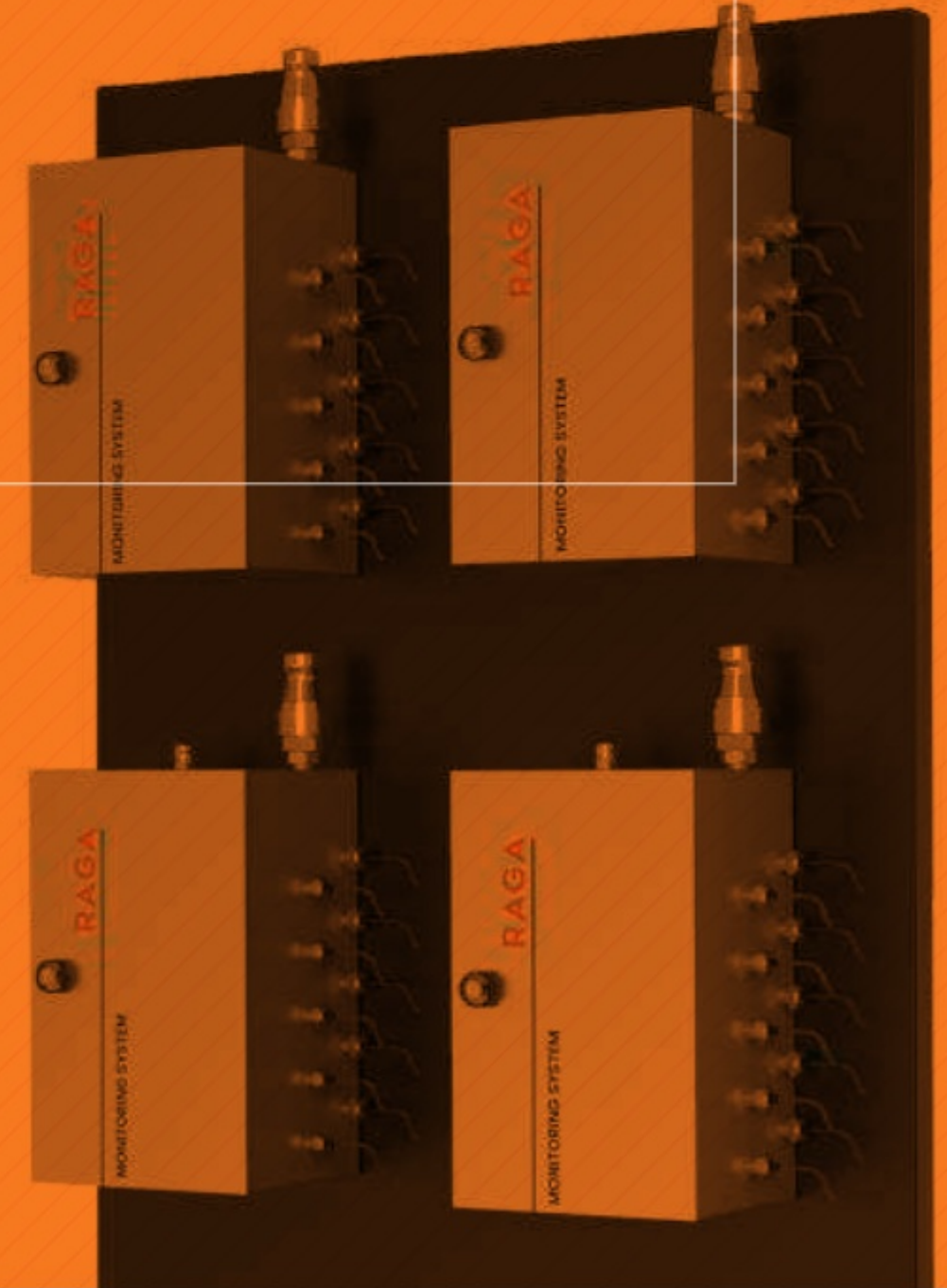
Save on capital & energy cost,
spares inventory & floor space.

Common control and updated software
makes it easier to use.

TECHNICAL SPECIFICATIONS		RAGA COMBO	
CORE PIN COOLED*	Nos	20	40
COOLING CHANNELS	Nos	2	4
VACUUM TANK SIZE	liters	300	500
VACUUM CHANNELS	Nos	2	2
VACUUM EVACUATION SECTION	mm2	2x500	2x800
FLOW RATE MEASURE		✓	✓
AIR & WATER PRESSURE MEASURE		✓	✓
CORE PIN BREAKAGE DETECTION		✓	✓
VACUUM PRESSURE IN TANK & CHANNEL MEASURE		✓	✓
VACUUM LEAK TEST		✓	✓
CURVE PER CHANNEL DISPLAY		✓	✓
ERROR DIAGNOSTIC & RECORDING		✓	✓
TOUCH SCREEN HMI		Mistubishi 7"	Mistubishi 7"
DATA STORAGE & TRANSFER MOLD/PRODUCTION		16/200	16/200
FOOT PRINT	m	1.5x1.7	1.5x1.7
DCM *	†	Upto 800	Upto 1600



MOLD COOLING OPTIMIZATION DEVICES





A : BTM W1 10
B : BTM W2 10+10

RAGA BLOCK TYPE MANIFOLD

Made up of single block corrosion resistance material making it more durable.

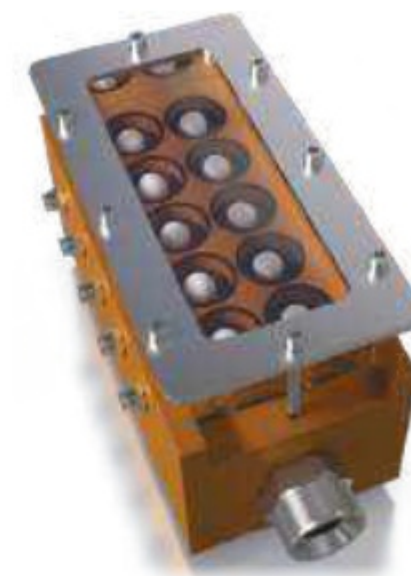
Connects all incoming or / and outgoing cooling tubes at one junction.

Block type manifold - One way connects inlet supply & distributes to jet coolers.

Block type manifold - Two way connects inlet & outlet supply to & from jet coolers.

Long life & easy to install.

	RAGA Block Type Manifold One way 10		RAGA Block Type Manifold One way 20		RAGA Block Type Manifold Two way 10		RAGA Block Type Manifold Two way 20	
Nos of tube connection	10		20		10+10	10+10	20+20	20+20
Tube thread size (Rc)	1/8	1/4	1/8	1/4	1/8	1/4	1/8	1/4
Main connection thread size (Rc)	1/2	3/4	3/4	1	1/2	3/4	3/4	1
Dimension HxWxD (mm)	140x40x40		140x50x50		140x100x40		140x100x40	
Separately available								
Fluide diverting joint	FDJ-012	FDJ-034	FDJ-034	FDJ-010	FDJ-012	FDJ-034	FDJ-034	FDJ-010
Recommended main connection	HAM-012	HAM-034	HAM-034	HAM-010	HAM-012	HAM-034	HAM-034	HAM-010
Recommended one touch fitting	A-01	A-02	A-01	A-02	A-01	A-02	A-01	A-02
Recommended fluortube	FPT-04-2.5 FPT-06-04 FPT-06-08		FPT-04-2.5 FPT-06-04 FPT-06-08		FPT-04-2.5 FPT-06-04 FPT-06-08		FPT-04-2.5 FPT-06-04 FPT-06-08	
Mounting bracket	BTM-MB-01		BTM-MB-01		BTM-MB-01		BTM-MB-01	



VFM 10

RAGA VISUAL FLOW MANIFOLD

Spot blockage or breakage of core pins visually

Roling balls indicate flow of water & abnormality if any

Connects outlet of jet coolers to drain hose

Simple & effective solution

	RAGA Visual Flow Manifold- 2	RAGA Visual Flow Manifold- 8	RAGA Visual Flow Manifold- 10	RAGA Visual Flow Manifold- 16
Nos of tube connection	2	8	10	16
Tube thread size (Rc)	1/8	1/8	1/8	1/8
Main connection thread size (Rc)	3/4	3/4	3/4	3/4
Working water flow rate (lpm)	0.5-1.8	0.5-1.8	1.2-6	1.2-6
Working pressure (Bar)	7	7	7	7
Breaking pressure (Bar)	20	20	20	20
Maximum working Temp. °C	100	100	100	100
Dimensions HxWxD (mm)	60 x75x 87	130x75x87	153x75x87	278x75x87
Consumables	O-ring - VFM-O-01 Nylon Ball- VFM-B-01 Acrylic Board- VFM-AB-02	O-ring - VFM-O-01 Nylon Ball- VFM-B-01 Acrylic Board- VFM-AB-08	O-ring - VFM-O-01 Nylon Ball- VFM-B-01 Acrylic Board- VFM-AB-10	O-ring - VFM-O-01 Nylon Ball- VFM-B-01 Acrylic Board- VFM-AB-16
Separately available				
Adopter for main connection	HAM-034	HAM-034	HAM-034	HAM-034
One touch fitting for tube connection	A-01	A-01	A-01	A-01
Recommended fluortube	FPT-04-2.5 FPT-06-04 FPT-06-08	FPT-04-2.5 FPT-06-04 FPT-06-08	FPT-04-2.5 FPT-06-04 FPT-06-08	FPT-04-2.5 FPT-06-04 FPT-06-08
Mounting bracket	VFM-MB-01	VFM-MB-01	VFM-MB-01	VFM-MB-01



RAGA PIN BREAKAGE DETECTION DEVICE

Prevents accidents by detecting breakage of core pin or cooling channel after every shot.

Stops jet cooling operation if abnormality found.

Sturdy & easy to install.

Integrable with existing jet cooling machine.

	RAGA Pin Breakage Detecting Device-04	RAGA Pin Breakage Detecting Device-10
Nos of connection	4	10
Connection thread size (Rc)	1/4	1/4
Maximum working pressure (bar)	20	20
Dimension HxWxD (mm)	400x200x175	530x200x175
Power supply DC (V)	24	24
Consumables	O-ring - VFM-O-01 Nylon Ball- VFM-B-01 Acrylic Board- VFM-AB-02	O-ring - VFM-O-01 Nylon Ball- VFM-B-01 Acrylic Board- VFM-AB-08
Separately available		
One touch fitting for tube connection	A-01	A-01
Recommended flurotube	FPT-04-2.5 FPT-06-04 FPT-06-08	FPT-04-2.5 FPT-06-04 FPT-06-08



RAGA FLOW SENSING DEVICE

Prevents accidents due to spillage of water into molten aluminum.

Senses real time water flow abnormality on each cooling line.

Safeguards your jet cooling operation.

Saves cost by reducing rejections.

Proven & trusted digital technology.

	RAGA Flow Sensing Device-03	RAGA Flow Sensing Device-08
Nos of connection	3	8
Connection thread size (Rc)	1/4	1/4
Maximum working pressure (bar)	20	20
Minimum detective flow rate (lpm)	0.5	0.5
Maximum working temp. (°C)	100	100
Dimension HxWxD (mm)	408x350x200	408x370x215
Power supply DC (V)	24	24
Output type	Digital pulse signal	Digital pulse signal
Separately available		
One touch fitting for tube connection	A-01	A-01
Recommended flurotube	FPT-04-2.5 FPT-06-04 FPT-06-08	FPT-04-2.5 FPT-06-04 FPT-06-08



FID 3

RAGA FLOW INDICATION DEVICE

Generates alarm if there is any blockage or breakage of core pins.

Receives signal from Flow sensing device.

Conforms with international standards & spares.

Trouble-free & cost-effective solution for existing jet cooling operations.

	RAGA Flow Indicator Device-3	RAGA Flow Indicator Device-8
Flow lamp for nos of connection	3	8
Power supply DC (V)	24	24
Max. power consumption (w)	5.4	6.9
Abnormal water flow	Warning light with buzzer	Warning light with buzzer
Dimension HxWxD (mm)	270x225x65	405x225x165

NEW LAUNCH



RAGA MOLD COOLING PERFORMANCE MONITORING SYSTEM

Brings traceability and predictability in Jet, Spot & Line Cooling

Standalone unit mounted near or on Platen to monitor output water

Predict failures like blockage, breakage & leakage for individual core pin and cooling line

Can be installed with any existing Jet Cooling system

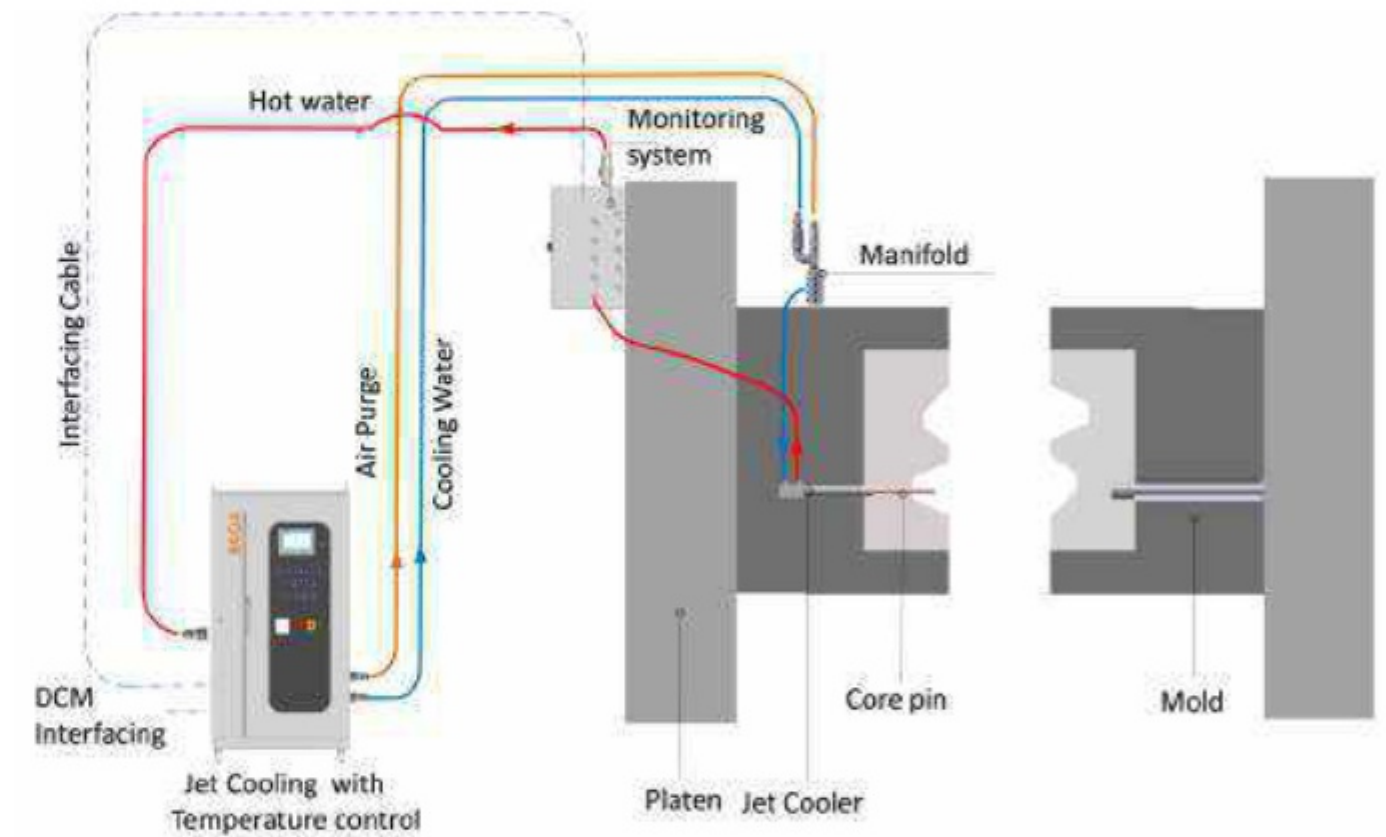
Graphical representation for traceability every shot

		RAGA Monitoring System 8	RAGA Monitoring System 16
No of connections*	Nos	8	16
Maximum working pressure	Bar	20	20
Flow rate (min)	lpm	0.5	0.5
Temperature (max)	C	100	100
Dimension HxWxD	mm	450x300x250	650x300x250
Connection Size (Tube)	mm	4	4
Power supply	V	24	24
Output type		Digital pulse signal	Digital pulse signal
Separately Available			
One touch fitting for tube connection		A01	A01
Recommended fluoro tube		FPT-04-2.5 FPT-04-2.5 FPT-06-04 FPT-08-06	FPT-04-2.5 FPT-04-2.5 FPT-06-04 FPT-08-06

DEVICE SELECTION CHART

					
		Visual Flow Manifold	Pin Breakage Detection device	Flow Sensing + Indication Device	Mold Cooling Performance Monitoring System
		Indicates visually water flow	Indicates leakage / breakage	Indicate water is flowing or not	Senses flow rate & Temperature for each line and generates data every shot
Detection during Solidification	Leakage	×	×	×	✓
	Breakage	✓	×	×	✓
	Blockage	×	×	×	✓
Detection after Ejection	Leakage	×	✓	×	✓
	Breakage	×	✓	×	✓
	Blockage	×	✓	×	✓
Measure, record & generate alarm	Flow rate	×	×	×	✓
	Temperature	×	×	×	✓
Operator Independent		×	✓	✓	✓
Predictive Information		×	×	×	✓
Connection with non Raga Jet cooling machine		✓	×	✓	×

CONNECTION LAYOUT MONITORING SYSTEM





RAGA WATER CHILLER

Temperature controlled closed loop system for Jet,
Spot & Line cooling.

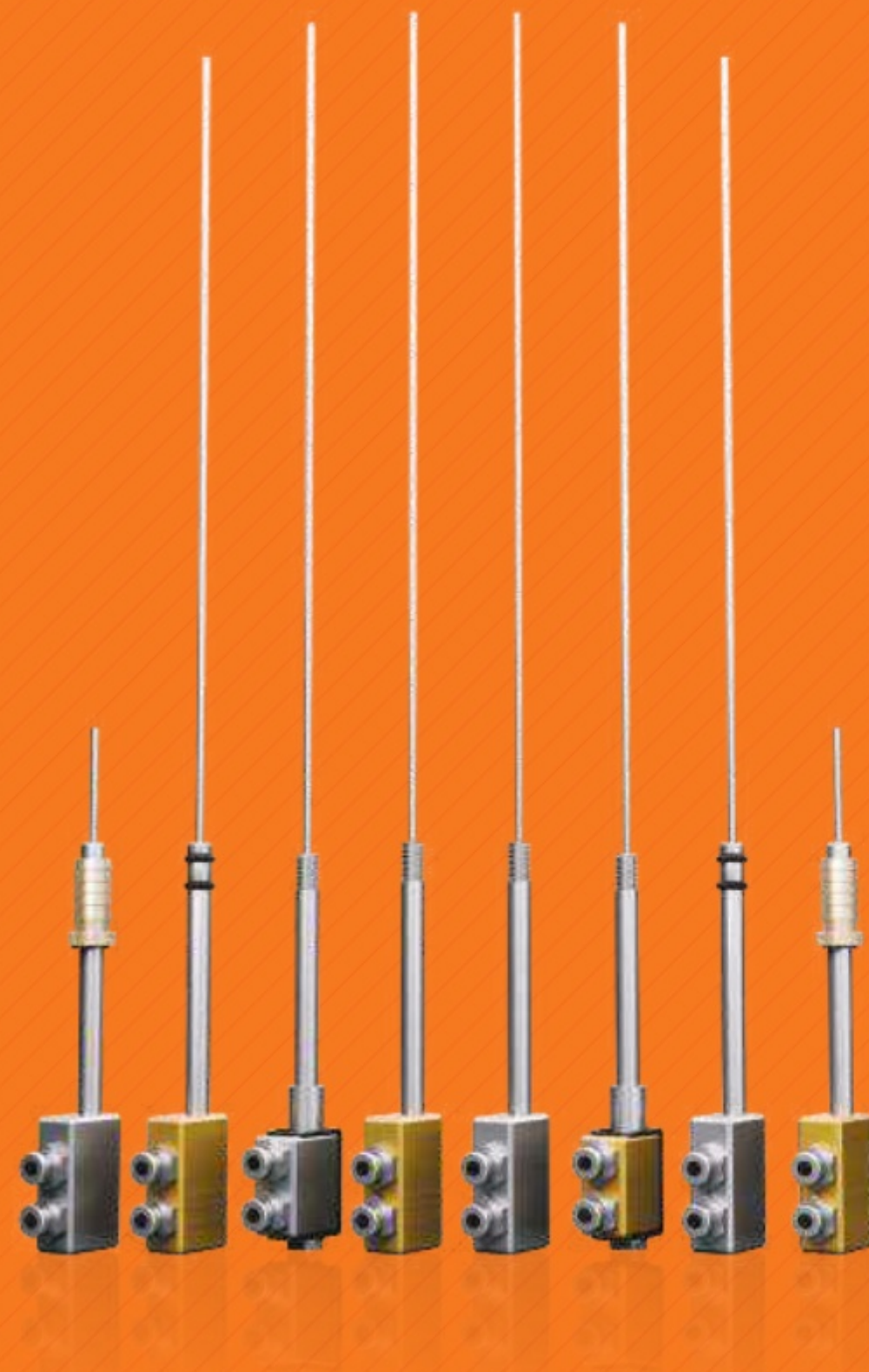
Save water consumption cost and Improve
efficiency of Mold cooling.

Maintain quality of water and reduce scaling
in die cooling line.

		RAGA Chillar 2TR	RAGA Chillar 5TR
Cooling Capacity	TR	2	5
Inbuilt tank Capacity	Ltrs	60	100
Flow rate (max)	lpm	24	76
Temperature (min)	C	10	10
Dimension HxWxD	mm	600x800x800	800x1000x1200
Power Consumption	kW	2.6	6.7

MOLD COOLING OPTIMIZATION DEVICES / SPARES

Item Name	Ordering Code	Image	Description	MOQ.
One touch fitting	A-01-04		For Ø4 mm hose Pipe & Rc 1/8 spot cooler thread.	10 No's
	A-01-06		For Ø6 mm hose Pipe & Rc 1/8 spot cooler thread.	10 No's
	A-01-08		For Ø8 mm hose Pipe & Rc 1/8 spot cooler thread.	10 No's
	A-02-04		For Ø4 mm hose Pipe & Rc 1/4 spot cooler thread.	10 No's
	A-02-06		For Ø6 mm hose Pipe & Rc 1/4 spot cooler thread.	10 No's
	A-02-08		For Ø8 mm hose Pipe & Rc 1/4 spot cooler thread.	10 No's
Hose adapter male	HAM-014		Both side male thread Rc 1/4 "	10 No's
	HAM-038		Both side male thread Rc 3/8 "	10 No's
	HAM-012		Both side male thread Rc1/2 "	10 No's
	HAM-034		Both side male thread Rc 3/4 "	10 No's
	HAM-100		Both side male thread Rc 1 "	10 No's
	HAM-114		Both side male thread Rc 1 1/4 "	10 No's
Fluid diverting joint	FDJ-012 FDJ-034 FDJ-100		To use on Manifold for HVCU connection of water and Air purge for Hose size 1/2", 3/4", 1"	1No 1No 1No
Rubber hose Ø7mm	HB07		Outer Ø14.2 mm, Inner Ø7.1 mm	10 Mtrs
Copper pipe	COP-43		Outer Ø4 mm, ID-3MM	10 Mtrs
	COP-64		Outer Ø6 mm, ID-4MM	10 Mtrs
	COP-86		Outer Ø8 mm, ID-6MM	10 Mtrs
Fluoropoly tube	FPT-04-2.5-BL		Outer Ø4 mm and Inner Ø2.5 mm ; Color -Blue (translucent)	10 Mtrs
	FPT-04-2.5-RE		Outer Ø4 mm and Inner Ø2.5 mm ; Color -Red (translucent)	10 Mtrs
	FPT-04-2.5-BK		Outer Ø4 mm and Inner Ø2.5 mm ; Color -Black (translucent)	10 Mtrs
	FPT-06-4.0-BL		Outer Ø6 mm and Inner Ø4 mm ; Color -Blue (translucent)	10 Mtrs
	FPT-06-4.0-RE		Outer Ø6 mm and Inner Ø4 mm ; Color -Red (translucent)	10 Mtrs
	FPT-06-4.0-BK		Outer Ø6 mm and Inner Ø4 mm ; Color -Black (translucent)	10 Mtrs
	FPT-08-6.0-BL		Outer Ø8 mm and Inner Ø6 mm ; Color -Blue (translucent)	10 Mtrs
	FPT-08-6.0-RE		Outer Ø8 mm and Inner Ø6 mm ; Color -Red (translucent)	10 Mtrs
	FPT-08-6.0-BK		Outer Ø8 mm and Inner Ø6 mm ; Color -Black (translucent)	10 Mtrs
Mounting bracket 1	BTM-MB-01		For Block Type Manifold	1No
Mounting bracket 2	VFM-MB-01		For Visual Flow Manifold	1No
Revolving ball	VFM-MB-01		For Visual Flow Manifold	1No
O-ring	VFM-O-01		For Visual Flow Manifold Sealing	10 No's
Acrylic board	VFM-AB-02		For Visual Flow Manifold -02	1 No
	VFM-AB-08		For Visual Flow Manifold -08	1 No
	VFM-AB-10		For Visual Flow Manifold -10	1 No
	VFM-AB-16		For Visual Flow Manifold -16	1 No



HIGH LIFE MOLD & INJECTION CONSUMABLES





RAGA JET COOLER

Facilitates high pressure water & air into thin channels and slender holes of core pins during casting processes.

Important part of the Jet cool system to reduce shrinkage porosities.

Easy to Install & long life.

Improved material and design gives higher life.

Available in 4 variants & with quick delivery.

RAGA JET COOLER Application



Jet Cooler JCO with Core Pin



Jet Cooler JCT with Core Pin



Jet Cooler JCS with Core Pin



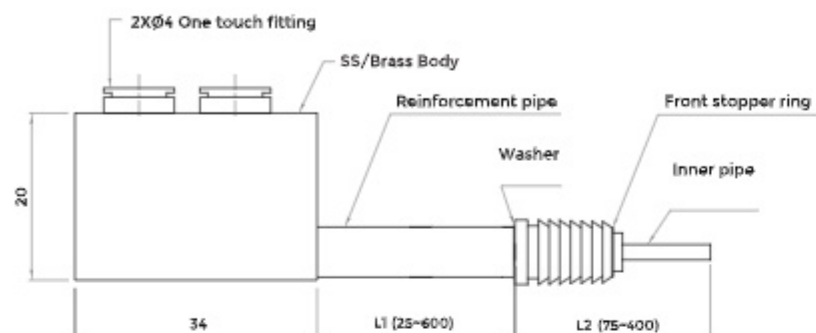
Jet Cooler JCR with Core Pin



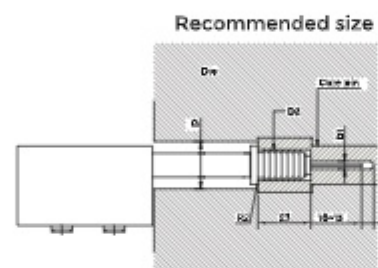
Jet Cooler JCP with Insert

RAGA JET COOLER

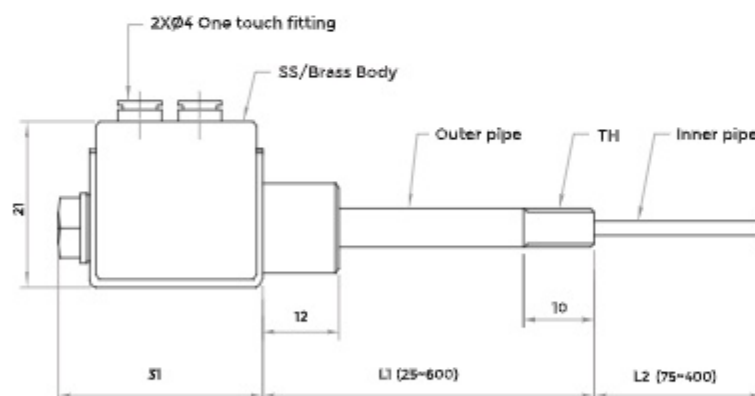
Sleeve Type (JCS)



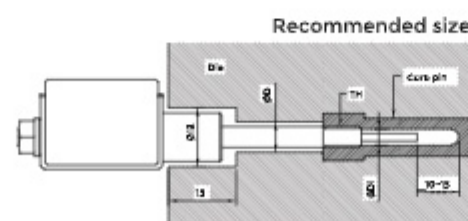
Outer Pipe		Inner Pipe		Reinforcement	Hole for	Die Hole	Pin Hole
OD	ID	OD	ID	Pipe (ID)	Packing (D2)	D	D1
6	3	1.2	0.85	6.4	10	14	~3
		1.8	1.35				
6	3	1.2	0.85	6.4	13	17	~3
		1.8	1.35				
8	4	1.8	1.35	11	13	17	~45
		2.3	1.88				



Roto Type (JCR)



Outer Pipe		Inner Pipe		JCR Outer Pipe	Die Hole	Hole Dia
OD	ID	OD	ID	Thread TH	D	D1
4	2	1.2	0.85	M4X0.7	8	2
		1.8	1.35			
6	3	1.2	0.85	M6X1	10	3.5
		1.8	1.35			
8	4	1.8	0.35	Rc1/16	12	4.5
		2.3	1.8			
10	5	2.3	1.8	Rc1/8	12	4.5
		2.8	2.3			

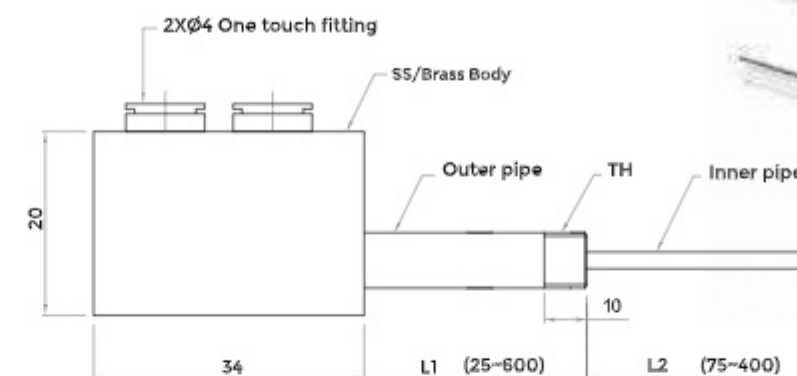


ORDERING CODE

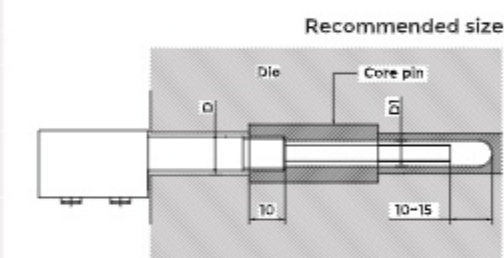
Part Type	Outer Pipe (OD)	Inner Pipe (OD)	L1	L2
JCS/JCR	6	1.8	50	210

RAGA JET COOLER

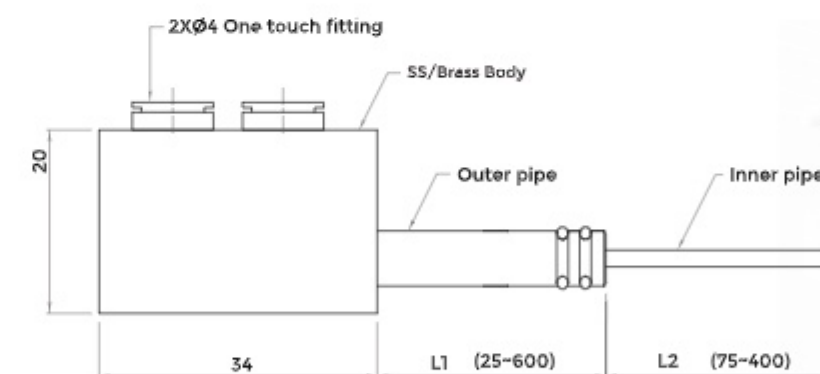
Thread Type (JCT)



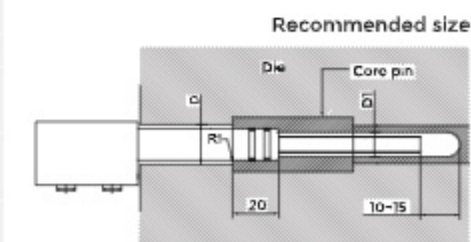
Outer Pipe		Inner Pipe		Die Hole	Pin Hole	JCT Outer Pipe Thread
OD	ID	OD	ID	D	D1	TH
4	2	1.2	0.85	8	~2	M4X0.7
		1.8	1.35			
6	3	1.2	0.85	10	~3	M6X1
		1.8	1.35			
8	4	1.8	1.35	12	~4.5	1/16 PT
		2.3	1.8			
10	5	1.8	1.35	13	~6	1/8 PT
		2.3	1.8			
		2.8	2.3			



O-Ring Type (JCO)



Outer Pipe		Inner Pipe		Die Hole	Pin Hole	JCO O Ring	
OD	ID	OD	ID	D	D1	Used	Dia
4	2	1.2	0.85	8	~2	NA	
		1.8	1.35				
6	3	1.2	0.85	10	~3	S4	6.3
		1.8	1.35				
8	4	1.8	1.35	12	~4.5	S6	8.2
		2.3	1.8				
10	5	1.8	1.8	13	~6	P7	10.2
		2.3	1.8				
		2.8	2.3				



ORDERING CODE

Part Type	Outer Pipe (OD)	Inner Pipe (OD)	L1	L2
JCT/JCO	6	1.8	50	210



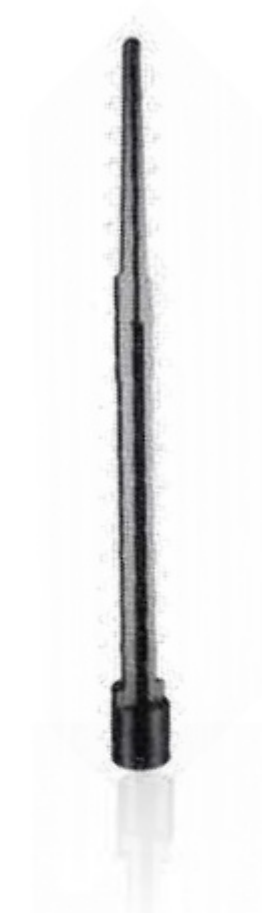
RAGA COREPIN

Reduce breakdown by use of long life RAGA core pin.

Core pins used to create holes in die casting are fitted & part of a die casting mold.

Precisely machined and ground custom pins are made from high quality DIN 1.2344/AISI H-13.

Vacuum Heat treatment, nitriding & coating enhances life of the core pins.



RAGA JET COOLED CORE PIN

Jet cooled (JC) core pins are an integral & most important part of the jet cool system.

Casters prefer RAGA JC Core pins for their life and deep hole concentricity.

Custom made pins go through stringent quality checks to ensure straightness of holes & dimensions.

Surface treatments like Nitriding & coating ensures higher life.

FEATURES

Hole: Min Dia 2.5mm & Max length 600mm
Casting Dia: Min 4.5mm, Coating options available



RAGA SPOT COOLER

Minimise mold breakdown and maintenance time using
RAGA SPOT COOLERS.

Standard options for customised needs
keeps mold thermally balanced.

Stainless steel option gives high life
against poor water quality.

Easy installation for both thread type & O-ring types.

Design ensures strength against breakage or bending.

Options for rotatable head &
hose connection gives flexibility to use.

RAGA SPOT COOLER

Roto Type New Design - SCT-R-H

Characteristics

- Roto Type head give flexibility to take hose any dissection
- All units are in MM.

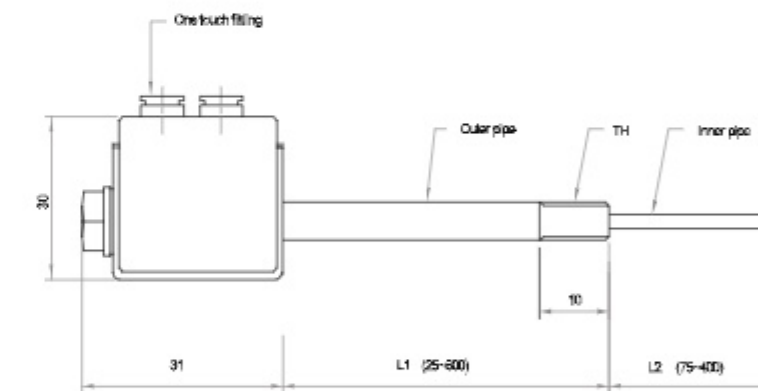
Working Condition

- Pressure- Max. 2MPA
- Fluid Temp.- > 150°C

Material

Head	Outer Pipe	Inner Pipe
SS	SS	SS

SCT-R-H

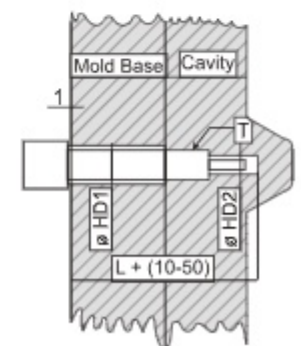


Outer Pipe		Inner Pipe		Outer Pipe Thread	Hole Dimension	
OD	ID	OD	ID	TH(Rc)	HD1	HD2
10.5	5.7	4	2.4	1X8	15	6
13.8	7.8	4	2.4	1/4	17	8
		6	4			
		4	2.4			
17.3	10.9	4	2.4	3X8	22	12
		8	6			
21.7	16.1	10	8	1/2	26	16

ORDERING CODE

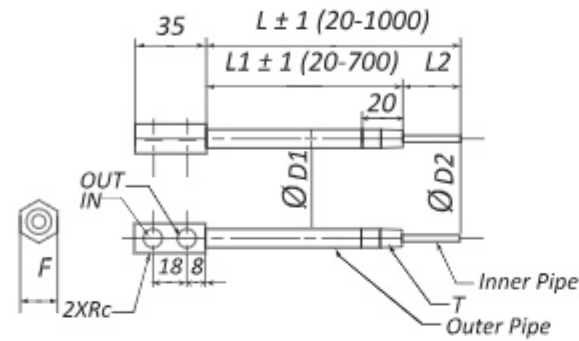
Part Type	Outer Pipe (OD)	Inner Pipe (OD)	L1	L2
SCT-R-H	10.5	4	50	210

Installation dimm.



RAGA SPOT COOLER

Thread Type SCT



Characteristics

- W1 is 1-way and W2 is 2-ways.
- All units are in MM.

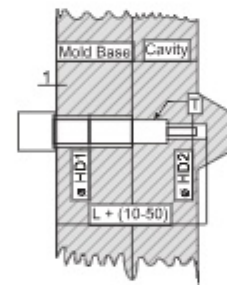
Working Condition

- Pressure- Max. 2MPa
- Fluid Temp.- > 150°C

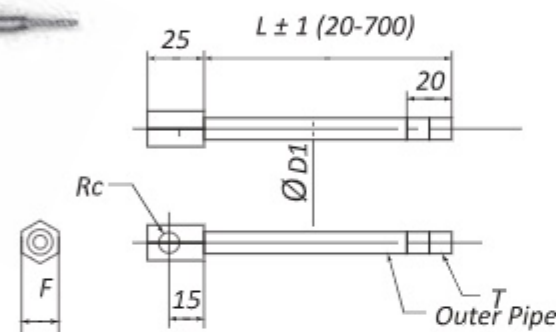
Material

Code	Head	Outer Pipe	Inner Pipe
M1	M5	M5	Copper
M2	SS	SS	SS

Installation dimm.



SCT-W2



SCT-W1



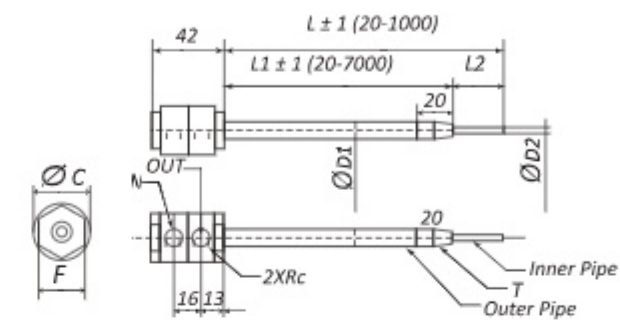
Size No.	Head		Outer Pipe		Inner Pipe		Thread	Hole Dimension	
	F (Acc. Flat)	RC (Thread)	D1 (ø Outer)	D1 (ø Inner)	D2 (ø Outer)	D2 (ø Inner)	T	HD1	HD2
1A	17	1/8	10.5	5.7	4.0	2.4	1/8	15	6
1B	24	1/4					1/8		
2A	19	1/8	13.8	7.8	6.0	4.0	1/4	17	8
2B	24	1/4					1/4		
3A	21	1/8	17.3	10.9	8.0	6.0	3/8	22	12
3B	29	1/4					3/8		
4A	24	1/8	21.7	16.1	10.0	8.0	1/2	26	16
4B	29	1/4					1/2		

ORDERING CODE

Part Type	Material	Size	L	L1*
SCT-W2	M2	2A	378	321
SCT-W1	M1	3B	377	

RAGA SPOT COOLER

Thread Type Rotating Head SCT-R



Characteristics

- W1 is 1-way and W2 is 2-ways.
- All units are in MM.

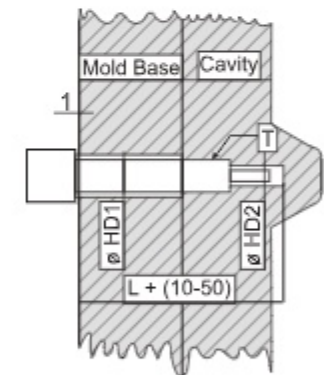
Working Condition

- Pressure- Max. 2MPa
- Fluid Temp.- > 150°C

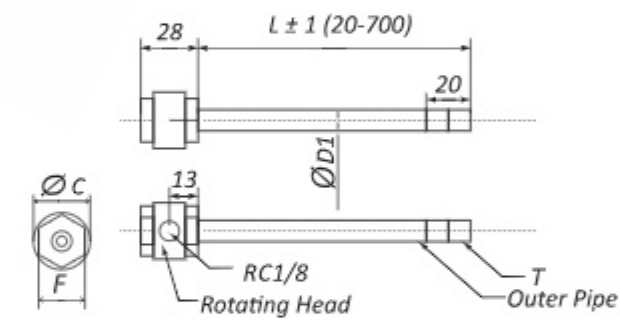
Material

Code	Head	Outer Pipe	Inner Pipe
M1	M5	M5	Copper
M2	SS	SS	SS

Installation dimm.



SCT-R-W2



SCT-R-W1



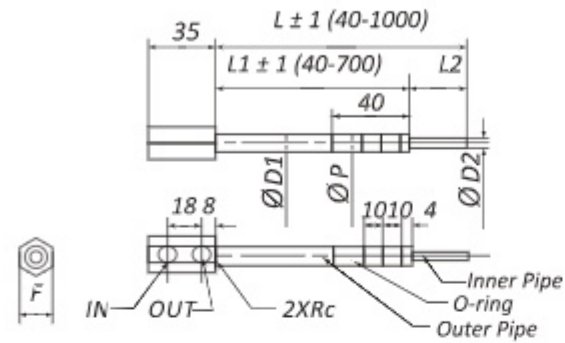
Size No.	Head			Outer Pipe		Inner Pipe		Thread	Hole Dimension	
	F (Acc. Flat)	C (ø Head)	RC (Thread)	D1 (ø Outer)	D1 (ø Inner)	D2 (ø Outer)	D2 (ø Inner)	T	HD1	HD2
1	24	30	1/8	10.5	5.7	4.0	2.4	1/8	15	6
2			1/8	13.8	7.8	6.0	4.0	1/4	17	8
3			1/8	17.3	10.9	8.0	6.0	3/8	22	12

ORDERING CODE

Part Type	Material	Size No.	L	L1*
SCT-R-W2	M2	2	385	350
SCT-R-W1	M1	3	413	

RAGA SPOT COOLER

O-Ring Type SCO



SCO-W2



Characteristics

- W1 is 1-way and W2 is 2-ways.
- O2 is 2-O rings and O3 is 3-O rings.
- For W1 only O3 available.
- All units are in MM.

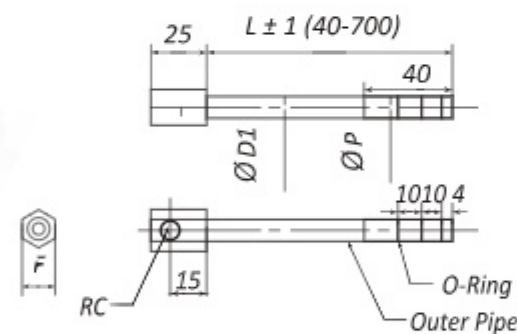
Working Condition

- Pressure- Max. 2MPa
- Fluid Temp.- > 150°C

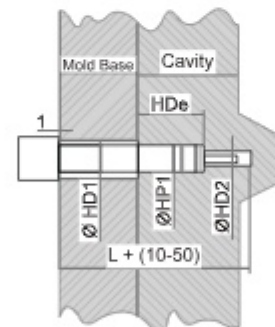
Material

Code	Head	Outer Pipe	Inner Pipe
M1	MS	MS	Copper
M2	SS	SS	SS

SCO-W1



Installation dimm.



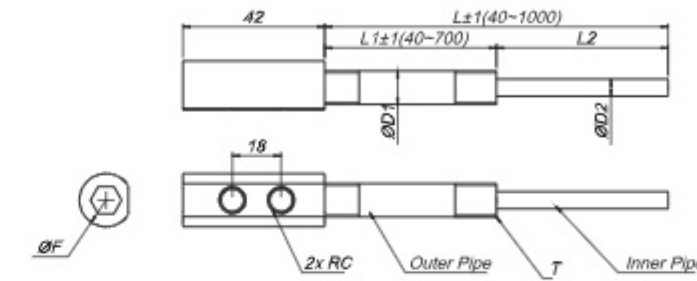
Size No.	Head		Outer Pipe			Inner Pipe		Hole Dimension			
	RC Thread	RC Thread	D 1 (ø Inner)	d 1 (ø Inner)	P (ø Inner)	D 2 (ø Inner)	d 2 (ø Inner)	HP1	H1D	HD2	HDe
1A	17	1/8	10.5	5.7	4.0	2.4	2.4	11 ^{+0.05}	15	6	30
1B	24	1/4									
2A	19	1/8	13.8	7.8	6.0	4.0	4.0	13 ^{+0.05}	17	8	
2B	24	1/4									
3A	21	1/8	17.3	10.9	8.0	6.0	6.0	18 ^{+0.05}	22	10	
3B	29	1/4									
4A	24	1/8	21.7	16.1	10.0	8.0	8.0	22 ^{+0.05}	26	12	
4B	29	1/4									

ORDERING CODE

Part Type	Outer Pipe (OD)	Inner Pipe (OD)	L	L1*
SCO-03-W2	M2	2A	378	321
SCO-03-W1	M1	3B	377	

RAGA SCH-W2 SPOT COOLER

Hex Key Type SCH



SCH-W2



Characteristics

- Round head
- Install with allen wrench
- W1 is 1-way and W2 is 2 ways
- All units are in mm

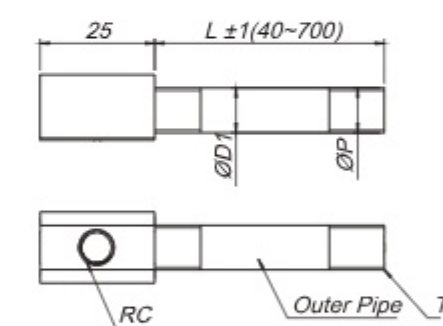
Working Condition

- Pressure - Max. - 2MPa
- Fluid Temp. > 150 °C

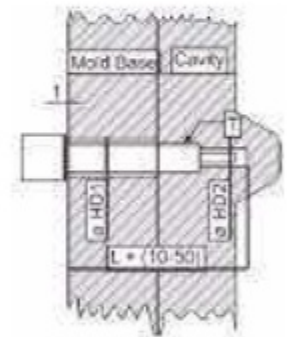
Material

Code	Head	Outer Pipe	Inner Pipe
M1	BRASS	SS	SS
M2	M2	SS	SS

SCO-W1



Installation dimm.



Size No.	Head		Outer Pipe		Inner Pipe		Thread	Hole Dimension	
	Ø F	RC Thread	D 1 (ø Outer)	d 1 (ø Inner)	D 2 (ø Outer)	d 2 (ø Inner)	T	HD1	HD2
1A	17	1/8	10.5	5.7	4	2.4	1/8	15	6
1B	22	1/4							
2A	22	1/8	13.8	7.8	6	4	1/4	17	8
2B	24	1/4							
3A	24	1/8	17.3	10.9	8	6	3/8	22	12
3B	29	1/4							
4A	29	1/8	21.7	16.1	10	8	1.2	26	16
4B	29	1/4							

ORDERING CODE

Part Type	Outer Pipe (OD)	Inner Pipe (OD)	L	L1*
SCH-W2	M2	2A	378	321
SCH-W1	M1	3B	377	



RAGA SHOT SLEEVE

Long life RAGA SHOT SLEEVES come in fully or partially cooled with one or two part options.

High quality AISIH-13/DIN1.2344 is precisely machined, ground, hardened & Nitrided.



RAGA VACUUM SHOT SLEEVE

Casters have effectively used RAGA VACUUM SHOT SLEEVE to minimise porosiites around gate area.

RAGA's twin stage VACUUM SYSTEM gets connected to this sleeve and the mold.

Air is extracted from the shot sleeve via 4 wide cross-section path during the first phase of injection.



RAGA PLUNGER TIP

RAGA PLUNGER TIP reduces breakdown time due to plunger tip change. Made with high quality AISIH-13/DIN1.2344, it gives multiple times more life than cast iron.

Precisely machined & grounded.

Results in higher sleeve life.



RAGA SPRUE BUSH & DIFFUSER

Refined material structure and heat treatment makes
SPRUE BUSH & DIFFUSER more durable.

High quality AISI H-13/DIN 1.2344 is precisely
machined, ground, hardened & Nitrided.

With options of integral/jacket/conformal
cooling makes it thermally balanced.

Diffuser is ground blue matched with thermal clearances.



RAGA LPDC NOZZLE

Custom profiled RAGA LOW PRESSURE DIE CASTING NOZZLES
have been used & appreciated by die casters.

Nozzles increase mold life & decreases
production downtime.

Precisely machined and polished surfaces ensures
effective flow of molten aluminum into a LPDC mold.

High quality AISI H-13/DIN 1.2344 hardened
to specifications gives high life.

To Get
FREE
Mold Cooling Performance Report
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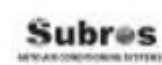
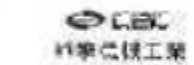
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Raga High Life Mold & Injection Consumables
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*Only for Jet Coolers, Spot Coolers & Core Pins Upto 2Pcs each

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Raga Group is a world renowned name
for Technologies and Consumables
in the die casting industry. Over the last twenty five years,
Raga has served OEM's and Tier-I companies
involved in die casting across the world.

Raga's line of products is developed based on
close analysis of the die casting process and
its environment.

This has helped us deliver innovative products
and equipments to global standards.

RAGA

Serving Die Casting Industry Since **26 Years**