

# RAGA

TECHNOLOGIES & CONSUMABLES



## RAGA ENGINEERS

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Technologies Catalog

25  
YEARS

# RAGA HVCU

	PRO	NEX			
Core Pins Cooled	20	20	40	60	100
Cooling Channels	2	2	4	6	6
Cooling Water Flow Rate (lpm)	24	24	48	72	120
Measure Water Flow Rate / Channel		✓			
Measure Water & Air Pressure & Temperature	✓	✓			
Core Pin Breakage Detection		✓			
Measure Energy Consumption		✓			
Illustration of curve / Channel		✓			
Error Diagnostics & Recording	✓	✓			
Data Storage: Molds / Production	5/100	16/200			
USB Storage of Data in Excel		✓			
Power AC	380~440VAC 3ϕ 480VAC 3ϕ	380~440VAC 3ϕ 480VAC 3ϕ			
Frequency (Hz)	50/60	50/60			
Control Voltage (V DC )	24	24			
Power Consumption (KW)	1.6	1.6	2	4.6	4.6
Input/Output Air Pressure (bar)	5-7	5-7			
Input Water Condition	1 to 4 bar, 5 to 30 °C	1 to 4 bar, 5 to 30 °C			
Cooling Water Discharge Pressure (bar)	20	20			
Weight (Kg)	180	210			
D x W x H (m)	0.6 x 1.3 x 1.5	1.1 x 0.8 x 1.5			
Touch Screen HMI	Delta7	Mitsubishi 7			
High Pressure Water Pump	Grundfos	Grundfos			
Hydarulic and Pneumatic system	Janatics	SMC/Festo			
Water Filter		100 Micron mesh size with Auto self clean by One touch			
Air Filter	5 Micron mesh size	5 Micron mesh size			
Safety Standard	IS	IEC			
Control circuit and Motor control circuit Protection	✓	✓			
Phase loss Protection Devices	✓	✓			
Phase Reversal Protection		✓			
Earth Leakage Protection & Detection		✓			
Protection against residual Voltage, Earth Fault, Residual Current circuit Break		✓			
Over/Under Voltage Protection		✓			
On-Screen Trouble Shooting	✓	✓			
Door Interlock with Main power on		✓			
Interfacing Cable	3 core	24 Core			
DCM Panel Operation		✓			
Pump ready LED Indicator		✓			
Auto Operation LED Indicator		✓			
Noise Filter		✓			
Step down Isolation Transformer		✓			
Pipe Fittings	PU & Hoses	PU & Hoses			
Water Storage Tank	Stainless Steel (120 L)	NA			
Separately Available					
Number of Water Manifolds BTM W-1 with Fluid Diverting Joint	2	2	4	6	6
Visual Flow Manifold	2	2	4	6	6
Water Supply Hose 10m (Nos)	1	1	1	1	1
Cooling Water Hose 10m (Nos)	2	2	4	6	6
Air Supply Hose 10m (Nos)	1	1	1	1	1
Air Purge Hose 10m (Nos)	2	2	4	6	6
Water Drain Hose 10m (Nos)	1	1	1	1	1



Proven & Reliable Technology  
Minimises Shrinkage Porosity in Thin Sections & Around Core Pin in A Die Casted Part  
Plug & Play Ce Unit | Almost Nil Maintenance | Built To IEC Standards  
Branded Bought Out Parts with International Warrantee  
Advanced PLC Based Control System | Easy Setup of The Cooling Cycle  
Alarm Indications and Online Trouble Shooting Guide

# RAGA TRIO

	TRIO
Core Pins Cooled	6+6+6
Max : DCM Connect	3
Cooling Channels	3
Cooling Water Flow Rate (lpm)	24
Measure Water Flow Rate / Channel	✓
Measure Water & Air Pressure & Temperature	✓
Core Pin Breakage Detection	✓
Measure Energy Consumption	✓
Illustration of curve / Channel	✓
Error Diagnostics & Recording	✓
Data Storage: Molds / Production	16/200
USB Storage of Data in Excel	✓
Touch Screen HMI	Mitsubishi 7
Power AC	380~440VAC 3φ 480VAC 3φ
Frequency (Hz)	50/60
Control Voltage (V DC )	24
Power Consumption (KW)	1.4
Input/ Output Air Pressure (bar)	5-7
Water Condition	1 to 4 bar, 5 to 30 °C
Cooling Water Discharge Pressure (bar)	20
Weight (Kg)	180
D x W x H (m)	0.9 x 0.6 x 1.5
High Pressure Water Pump	Grundfos
Hydarulic and Pneumatic system Water Filter	SMC/Festo
Water Filter	100 Micron Mesh size with Auto self clean by One touch
Air Filter	5 Micron Mesh size
Safety Standard	IEC
Control circuit and Motor control circuit Protection	✓
Phase Loss Protection Devices	✓
Phase Reversal Protection	✓
Earth Leakage Protection & Detection	✓
Protection against Residual Voltage, Earth Fault, Residual Current Circuit break	✓
Over/Under Voltage Protection	✓
On-Screen Trouble Shooting	✓
Interfacing Cable	16 Core
DCM Panel Operation	✓
Pump Ready LED Indicator	✓
Auto Operation LED Indicator	✓
Noise Filter	✓
Step down Isolation Transformer	✓
Pipe Fittings	PU & Hoses
Separately Available	
Number of Water Manifolds BTM W-1 with Fluid Diverting Joint	3
Visual Flow Manifold	3
Water Supply Hose 10m (Nos)	1
Cooling Water Hose 10m (Nos)	3
Air Supply Hose 10m (Nos)	1
Air Purge Hose 10m (Nos)	3
Water Drain Hose 10m (Nos)	1



Centralised For 3 DCM | Save Capital Cost | Less Floor Space | Minimal Maintenance  
Low Energy Consumption | High Return on Investment

# RAGA VACMAX

	VACMAX 250	VACMAX 500	VACMAX 800	VACMAX 1000
Vaccum Tank (l)	250	500	800	1000
Vacuum Channels	2	2	2	2
Vacuum Pump Capacity (m3/hr)	25	40	63	100
Vaccum Evacuation Section[mm2]	2x500, 2x800	2x500, 2x800	2x500, 2x800	2x500, 2x800
DCM (t)	Up to 600	Up to 1400	Up to 1600	Up to 2000
Twin Stage Vacuuming			✓	✓
Measure Vacuum Pressure in Tank & Channels	✓	✓	✓	✓
Vacuum leak test	✓	✓	✓	✓
Measure Air Pressure	✓	✓	✓	✓
Measure Energy Consumption	✓	✓	✓	✓
Illustration of curve / Channel	✓	✓	✓	✓
Error Diagnostics & Recording	✓	✓	✓	✓
Data Storage: Molds / Production	16/200	16/200	16/200	16/200
USB Storage of Data in Excel	✓	✓	✓	✓
Touch Screen HMI	Mitsubishi 7	Mitsubishi 7	Mitsubishi 7	Mitsubishi 7
Power AC	380~440VAC 3φ 480VAC 3φ	380~440VAC 3φ 480VAC 3φ	380~440VAC 3φ 480VAC 3φ	380~440VAC 3φ 480VAC 3φ
Frequency (Hz)	50/60	50/60	50/60	50/60
Control Voltage (V DC )	24	24	24	24
Power Consumption (KW)	1.6	2	2.5	4
Input/Output Air Pressure (bar)	5-7	5-7	5-7	5-7
Achievable Ultimate Vacuum in receipt Tank (mbar)	5	5	5	5
Weight (Kg)	350	400	450	465
D x W x H (m)	0.6 x 1.6 x 1.4	0.7 x 1.9 x 1.5	0.8 x 2.0 x 1.6	0.9 x 2.4 x 1.5
Vacuum Pump	Busch	Busch	Busch	Busch
Pneumatic system	SMC/Festo	SMC/Festo	SMC/Festo	SMC/Festo
Air Filter	5 micron mesh size	5 micron mesh size	5 micron mesh size	5 micron mesh size
Safety Standard	IEC	IEC	IEC	IEC
Control circuit and Motor Control circuit Protection	✓	✓	✓	✓
Phase loss Protection Devices	✓	✓	✓	✓
Phase reversal Protection	✓	✓	✓	✓
Earth Leakage Protection & Detection	✓	✓	✓	✓
Protection against residual Voltage, Earth Fault, Residual Current Circuit Break	✓	✓	✓	✓
Over/Under Voltage Protection	✓	✓	✓	✓
On-Screen Trouble shooting	✓	✓	✓	✓
Door Interlock with Main power on	✓	✓	✓	✓
Interfacing Cable	16 Core	16 Core	16 Core	16 Core
DCM Panel Operation	✓	✓	✓	✓
Pump Ready LED Indicator	✓	✓	✓	✓
Auto Operation LED Indicator	✓	✓	✓	✓
Noise Filter	✓	✓	✓	✓
Step down Isolation Transformer	✓	✓	✓	✓
Pipe Fittings	PU & Hoses	PU & Hoses	PU & Hoses	PU & Hoses
Separately Available				
Chill Vaccum Block	As per Mould Design	As per Mould Design	As per Mould Design	As per Mould Design
Vacuum Hose 10m (Nos)	2	2	2	2
Air Supply Hose 10m (Nos)	1	1	1	1



Twin Stage (Shot sleeve & Mold) Vacuuming | User Friendly Operation  
Graphical Display | Alarm Indications and Online Trouble Shooting Guide | Efficient & Flexible

# RAGA UNO

	UNO
Vaccum Tank (l)	300
Vacuum Channels	1
Vacuum Pump Capacity (m3/hr)	40
Vaccum Evacuation Section (mm2)	1x500
DCM (t) (For Vacuuming)	Up to 800
Measure Vacuum pressure in Tank & Channels	✓
Data Storage: Molds / Production	16/200
USB Storage of Data in Excel	✓
Touch Screen HMI	Mitsubishi 7
Power AC	380~440VAC 3φ 480VAC 3φ
Frequency (Hz)	50/60
Control Voltage (V DC )	24
Power Consumption (KW)	2
Supply Air Pressure (bar)	5-7
Achievable Ultimate Vacuum in Receipt Tank (mbar)	5
Weight (Kg)	380
D x W x H (m)	0.8 x 0.8 x 1.5
Vacuum Pump	Busch RA series
Pneumatic System	SMC/Festo
Air Filter	5 Micron mesh size
Safety Standard	IEC
Control circuit and Motor Control circuit Protection	✓
Phase Loss Protection Devices	✓
Phase Reversal Protection	✓
Earth Leakage Protection & Detection	✓
Protection against Residual Voltage, Earth Fault, Residual Current Circuit break	✓
Over/Under Voltage Protection	✓
On-Screen Trouble Shooting	✓
Interfacing Cable	16 core
DCM Panel Operation	✓
Pump Ready LED Indicator	✓
Auto Operation LED Indicator	✓
Noise Filter	✓
Step down Isolation Transformer	✓
Pipe Fittings	PU & Hoses
Separately Available	
Chill Vaccum Block	As per mould Design
Vacuum Hose 10m (Nos)	1
Air Supply Hose 10m (Nos)	1



Low Intial Cost | Plug & Play Unit | Ease of Installation  
Serves Upto DCM 800 Tons | Low Maintenance

# RAGA COMBO






	COMBO	COMBO plus
Vaccum Tank (l)	300	500
Vacuum Channels	2	2
Vacuum Pump Capacity (m3/hr)	25	40
Vaccum evacuation section [mm2]	2x500 2x800	2x500 2x800
Core pins cooled	20, 40	20, 40
Cooling Channels	2, 4	2, 4
Cooling Water Flow Rate (lpm)	24	24
DCM (t) (For Vacuuming)	Up to 800	Up to 1400
Water Flow Rate / Channel Measure	✓	✓
Measure Water Pressure & Temperature	✓	✓
Core Pin Breakage Detection	✓	✓
Measure Vacuum Pressure in Tank & Channels	✓	✓
Vacuum leak test	✓	✓
Measure Energy Consumption	✓	✓
Illustration of curve / Channel (Vacuum and Cooling)	✓	✓
Error Diagnostics & Recording	✓	✓
Data Storage: Molds / Production	16/200	16/200
USB Storage of Data in Excel	✓	✓
Touch Screen HMI	Mitsubishi 10	Mitsubishi 10
Power AC	380~440VAC 3ϕ 480VAC 3ϕ	380~440VAC 3ϕ 480VAC 3ϕ
Frequency (Hz)	50/60	50/60
Control Voltage (V DC )	24	24
Power Consumption (KW)	3.5	4
Input / Output Air Pressure (bar)	5-7	5-7
Input Water Condition	1 to 4 bar, 5 to 30 °C	1 to 4 bar, 5 to 30 °C
Cooling Water Discharge Pressure (bar)	20	20
Achievable ultimate Vacuum in receipt Tank (mbar)	5	5
Weight (Kg)	730	740
DxWxH (m)	1.3 x 1.7 x 1.8	1.3 x 1.7 x 1.8
High Pressure Water Pump	Grundfos	Grundfos
Vacuum Pump	Busch	Busch
Hydarulic and Pneumatic system	SMC/Festo	SMC/Festo
Water Filter	100 Micron mesh size with Auto self clean by One touch	100 Micron mesh size with Auto self clean by One touch

	COMBO	COMBO plus
Air Filter	5 Micron mesh size	5 Micron mesh size
Safety Standard	IEC	IEC
Control circuit and Motor control circuit Protection	✓	✓
Phase loss Protection Devices	✓	✓
Phase Reversal Protection	✓	✓
Earth Leakage Protection & Detection	✓	✓
Protection against Residual Voltage, Earth Fault, Residual Current Circuit break	✓	✓
Over / Under Voltage Protection	✓	✓
On-Screen Trouble Shooting	✓	✓
Interfacing Cable	24 core	24 core
DCM Panel Operation	✓	✓
Pump Ready LED Indicator	✓	✓
Auto Operation LED Indicator	✓	✓
Noise Filter	✓	✓
Step down Isolation Transformer	✓	✓
Pipe Fittings	PU & Hoses	PU & Hoses
Separately Available		
Number of Water Manifolds BTM W-1 with Fluid Diverting Joint	2	2
Chill Vaccum Block	As per Mould Design	As per Mould Design
Visual Flow Manifold	2	2
Water Supply Hose 10m (Nos)	1	1
Cooling Water Hose 10m (Nos)	2	2
Air Supply Hose 10m (Nos)	1	1
Air Purge Hose 10m (Nos)	2	2
Water Drain Hose 10m (Nos)	1	1
Vacuum Hose 10m (Nos)	2	2



Common Control | Flexibility of Operation | Less Floor Space  
Low Inventory of Spares | Minimal Maintenance | Low Energy Consumption



						
	RAGA HVCU		RAGA TRIO	RAGA VACMAX	RAGA UNO	RAGA COMBO
	PRO	NEX				
CORE PINS COOLED	20	20 40 60 100	6+6+6 (3 DCM)	- - - -	- - - -	20 40
COOLING CHANNELS	2	2 4 6	3	- - -	- - -	2 4
VACUUM TANK SIZE [l]	- - - -	- - - -	- - - -	250 500 800 1000	300	300 500
VACUUM CHANNELS	-	-	-	2	1	2
VACUUM EVACUATION SECTION [mm²]	-	-	-	2 x 500 2 x 800	1 x 500 1 x 800	2 x 500 2 x 800
WATER FLOW RATE & ALARM PER CHANNEL	×	✓	✓	-	-	✓
CORE PIN BREAKAGE DETECTION	×	✓	✓	-	-	✓
WATER & AIR PRESSURE & TEMPERATURE	✓	✓	✓	-	-	✓
VACUUM PRESSURE IN TANK & CHANNELS	-	-	-	✓	✓	✓
VACUUM LEAK TEST	-	-	-	✓	×	✓
CURVE PER CHANNEL DISPLAY	×	✓	✓	✓	×	✓
ERROR DIAGNOSTICS & RECORDING	×	✓	✓	✓	×	✓
DATA STORAGE & TRANSFER: MOLDS / PRODUCTION	5 / 200	16 / 200	16 / 200	16 / 200	16 / 200	16 / 200
TOUCHSCREEN HMI	Delta 7"	Mitsubishi 7"	Mitsubishi 7"	Mitsubishi 7"	Mitsubishi 7"	Mitsubishi 10"
FOOT PRINT [m]	1.0 x 0.50	1.0 x 0.65	0.62 x 0.92	1.6 x 0.60 1.9 x 0.75 2.0 x 0.80 2.4 x 0.91	0.8 x 0.8	1.3 x 1.7
DCM [t]	-	-	-	Up to 600 Up to 1400 Up to 1800 Up to 2000	Up to 800	Up to 800 Up to 1400

## RAGA ACCESSORIES



RAGA  
BLOCK TYPE  
MANIFOLD



RAGA  
VISUAL FLOW  
MANIFOLD



RAGA  
PIN BREAKAGE  
DETECTION DEVICE



RAGA  
FLOW SENSING  
DEVICE



RAGA  
FLOW INDICATION  
DEVICE



RAGA  
WATER FILTER



RAGA  
WATER SOFTENER

## RAGA CONSUMABLES



RAGA  
CORE PIN



RAGA  
JET COOLED CORE PIN



RAGA  
JET COOLER



RAGA  
SPOT COOLER



RAGA  
CHILL VACCUM BLOCK



RAGA  
SHOT SLEEVE  
& PLUNGER TIP



RAGA  
SPRUE BUSH DIFFUSER