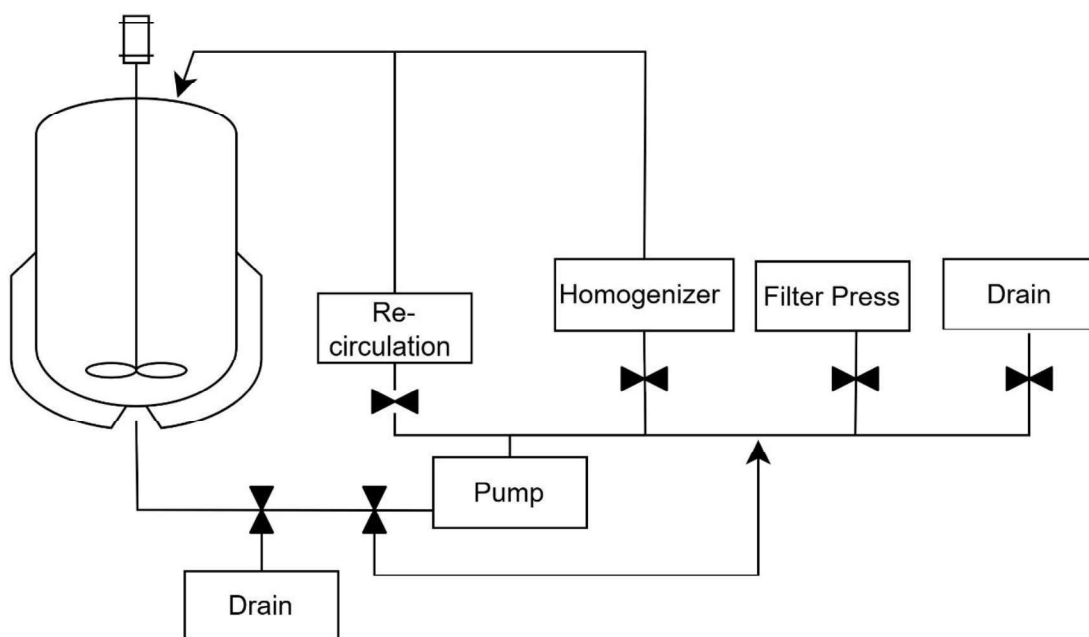


Description of the items:

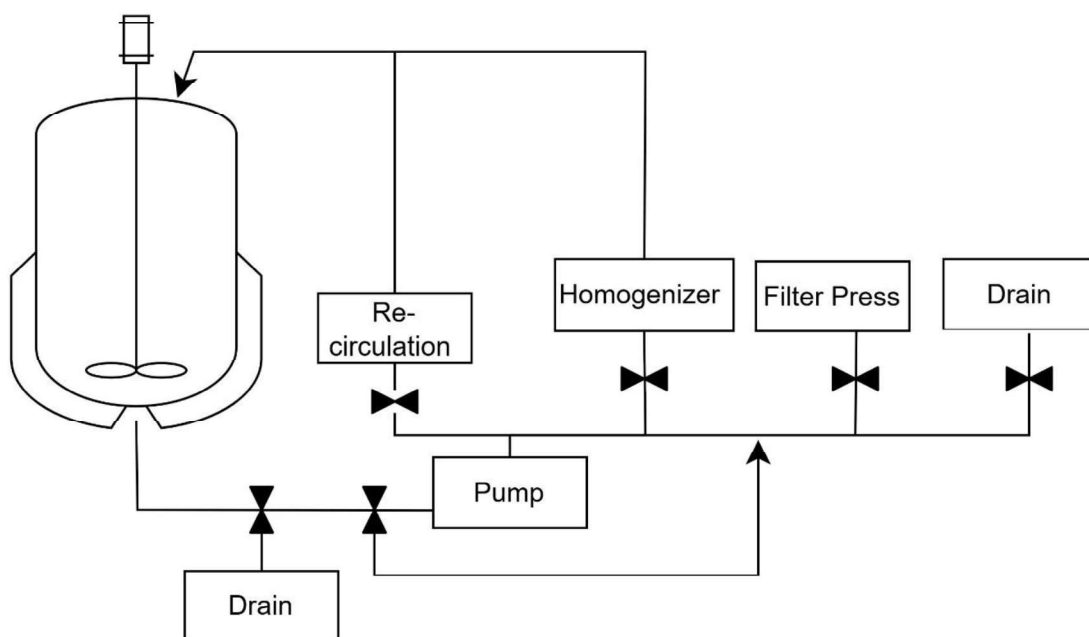
This compact system mounted on an MS structure includes a 30-liter reactor, a powerful in-line homogenizer, and a precision filter press, all three equipment are connected to provide exceptional performance and efficiency for laboratory-scale processing of high-viscosity silica and zeolite dispersions. The reactor, made from SS316L, features automatic lifting, precise control, and a robust sealing mechanism, suitable for high-temperature and pressure applications. The in-line homogenizer offers high shear rates and adjustable gap clearance, ensuring thorough mixing and particle size reduction. The filter press, with its recessed plate design and high-pressure capability, for efficient filtration and cake washing. Together, these interconnected components form a comprehensive solution for advanced material synthesis and processing in a laboratory setting, delivering integrated and streamlined operations for zeolite and precipitated silica preparation with easy handling and optimal results.



(General schematic diagram of the Small-Scale Reaction and Separation System with Interconnected piping (Not to scale and for representation only))

Description of the items:

This compact system mounted on an MS structure includes a 30-liter reactor, a powerful in-line homogenizer, and a precision filter press, all three equipment are connected to provide exceptional performance and efficiency for laboratory-scale processing of high-viscosity silica and zeolite dispersions. The reactor, made from SS316L, features automatic lifting, precise control, and a robust sealing mechanism, suitable for high-temperature and pressure applications. The in-line homogenizer offers high shear rates and adjustable gap clearance, ensuring thorough mixing and particle size reduction. The filter press, with its recessed plate design and high-pressure capability, for efficient filtration and cake washing. Together, these interconnected components form a comprehensive solution for advanced material synthesis and processing in a laboratory setting, delivering integrated and streamlined operations for zeolite and precipitated silica preparation with easy handling and optimal results.



(General schematic diagram of the Small-Scale Reaction and Separation System with Interconnected piping (Not to scale and for representation only))

the details technical specifications for each part of the system are in the following table

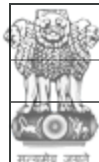

(A) Technical specifications for Reactor	
Items	Description
Volume	30 Ltr Working Capacity (minimum)
MOC	SS-316L (All contact part) and 304 for non-contact part
Design Pressure	20 Bar (Continuous Safe Working Pressure 80% Of the Design Pressure) (minimum)
Max Working Temp	250 °C (minimum)
Nozzles & Fittings	External Fittings: Pressure gauge, Vent valve, Pressure Release Spring Loaded Valve, and liquid Sampling valve will be mounted on a common dip tube- temp. sensor,
Baffles	4 Nos Vertical SS 316L Baffles
Material Circulation	SS fixed piping for hot slurry Circulation.
Body & Head Sealing	Heavy Body Flanged with Groove. The gasket will be GFT (Glass Filled Teflon Material) Automatic Lifting and Lowering of Autoclave Head Mechanism Include top dish, electric motor, and stirring assembly, with appropriate support structure
Motor & Drive	1/2 H.P AC Flame Proof GROUP IIA/II B Motor and variable frequency drive with 0-1350 RPM infinitely variable speed & digital RPM indication & Quick Connect Adaptor Love Joy Coupler
Shaft Sealing	Zero leakage Magnetic drive coupling. (Maintenance-free)
Stirrer	PBT Blade Shaft with Twin Level blades, + spare anchor, propeller blade, (ss 316L)
Heating	External Hot Oil Circulator unit Ambient to 280 Deg C (minimum) - With electrical inbuilt heater of appropriate capacity.
Control Panel	FLAME PROOF, control panel with programmable PID Temperature controller, make PID 500-0-00 RTD PT -100 sensor and AC inverter VFD to control the speed of the motor from 0-1350 rpm
Mains Power Supply	Three phase 415V+/- 10% at 50 Hz
All Hot surface need to be appropriately insulated using mineral wool and SS 304 cladding.	
(B) In-line Homogenizer suitable for a 30-liter reactor system and connected with the reactor system	
Operation Scale	Lab Scale
MOC	All the contact parts SS316L, Rotor assembly compatible with the system
Flow Rate	Minimum 200 liters per hour
Shaft Sealing	Double Mechanical Seal with Thermosyphon System for Mechanical Seal Cooling
Speed	Up to 2800 rpm (minimum)
Temperature range	Ambient to 120°C (minimum)
Viscosity	1-15 cp
Control Panel	VFD Control Panel
Rotor-Stator Design	Multi-stage
Design Pressure	Up to 5 Bar
(C) Lab scale filter press suitable for 30-liter batch processing and connected with the reactor	
Product	Lab Scale Filter Press

Type	Recessed Plate type with Plate sealing gasket
Facilities	Cake washing, Air Purging
MOC	Hydraulic Cylinder SS304 Pipelines and Manual Valves SS316L
No. of chambers	Suitable for 7-10 L wet cake handling capacity
Cake thickness	50 mm (maximum)
Total Filtration Area	0.4 sq. meter (minimum)
Feeding	Centre Feed
Discharge	Open / Closed
Filter Cloth	2 sets Polyester (1 set 10 microns & 1 set 2-3 microns)
Hydraulic hand pump	Complete with SS-304- hydraulic cylinder, mechanical lock nut (5T locking pressure) and other accessories
Feed Pump	Air Operated Diaphragm Pump
Extra Plate	Provision for dummy plate
Gasket	1 complete set of Gasket
Cake trough	SS316L
Warranty	1 year
Maintenance and services	1 year
<ul style="list-style-type: none"> • Compact Small-Scale Reaction and Separation System with Reactor, In-line Homogenizer, and Filter Press are Interconnected with piping, slurry handling pump as required and mounted on MS Structure, Cladding with SS304. • All instrumentations: with BIS certification (attach document proof) • SS sheet test certificate for both SS 304 and SS 316L • Accessories (gaskets, valves, sensors, relays, etc.) for two years of routine application and maintenance. 	
Pre-delivery inspection to ascertain the application suitability and specification before the dispatch (after satisfactorily fulfilling technical specifications mentioned in Part (A), (B), and (C) of the specification sheet.)	
<ul style="list-style-type: none"> • On-site inspection for the reactor system is as per the specification sheet. • An inspection will be carried out using water at the manufacturer's site for the technical assessment and suitability of the equipment quoted in the bid. • The supplier will arrange all materials and items required for the inspection. • An inspection will be given in the presence of a CSMCRI representative. • No extra charges will be paid for the inspection. 	
<ul style="list-style-type: none"> • Scope of Supply: at CSMCRI Bhavnagar 	
<ul style="list-style-type: none"> • Installation: at CSMCRI, Bhavnagar 	
<ul style="list-style-type: none"> • Acceptance test and Commissioning meet all required specifications as mentioned in the specification sheet. prepare the system for full operation, ensure it functions correctly in its actual environment, and train personnel to operate it safely at CSMCRI Bhavnagar 	
<ul style="list-style-type: none"> • All bought-out items (viz. electric motors, instruments, valves, etc.) should be BIS certified. • Documentary evidence needs to be submitted along with the equipment. 	

the details technical specifications for each part of the system are in the following table

(A) Technical specifications for Reactor	
Items	Description
Volume	30 Ltr Working Capacity (minimum)
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Nozzles & Fittings	External Fittings: Pressure gauge, Vent valve, Pressure Release Spring Loaded Valve, and liquid Sampling valve will be mounted on a common dip tube- temp. sensor,
Baffles	4 Nos Vertical SS 316L Baffles
Material Circulation	SS fixed piping for hot slurry Circulation.
Body & Head Sealing	Heavy Body Flanged with Groove. The gasket will be GFT (Glass Filled Teflon Material) Automatic Lifting and Lowering of Autoclave Head Mechanism Include top dish, electric motor, and stirring assembly, with appropriate support structure
Motor & Drive	1/2 H.P AC Flame Proof GROUP IIA/II B Motor and variable frequency drive with 0-1350 RPM infinitely variable speed & digital RPM indication & Quick Connect Adaptor Love Joy Coupler
Shaft Sealing	Zero leakage Magnetic drive coupling. (Maintenance-free)
Stirrer	PBT Blade Shaft with Twin Level blades, + spare anchor, propeller blade, (ss 316L)
Heating	External Hot Oil Circulator unit Ambient to 280 Deg C (minimum) - With electrical inbuilt heater of appropriate capacity.
Control Panel	FLAME PROOF, control panel with programmable PID Temperature controller, make PID 500-0-00 RTD PT -100 sensor and AC inverter VFD to control the speed of the motor from 0-1350 rpm
Mains Power Supply	Three phase 415V+/- 10% at 50 Hz
All Hot surface need to be appropriately insulated using mineral wool and SS 304 cladding.	
(B) In-line Homogenizer suitable for a 30-liter reactor system and connected with the reactor system	
Operation Scale	Lab Scale
MOC	All the contact parts SS316L, Rotor assembly compatible with the system
Flow Rate	Minimum 200 liters per hour
Shaft Sealing	Double Mechanical Seal with Thermosyphon System for Mechanical Seal Cooling
Speed	Up to 2800 rpm (minimum)
Temperature range	Ambient to 120°C (minimum)
Viscosity	1-15 cp
Control Panel	VFD Control Panel
Rotor-Stator Design	Multi-stage
Design Pressure	Up to 5 Bar
(C) Lab scale filter press suitable for 30-liter batch processing and connected with the reactor	
Product	Lab Scale Filter Press

Type	Recessed Plate type with Plate sealing gasket
Facilities	Cake washing, Air Purging
MOC	Hydraulic Cylinder SS304 Pipelines and Manual Valves SS316L
No. of chambers	Suitable for 7-10 L wet cake handling capacity
Cake thickness	50 mm (maximum)
Total Filtration Area	0.4 sq. meter (minimum)
Feeding	Centre Feed
Discharge	Open / Closed
Filter Cloth	2 sets Polyester (1 set 10 microns & 1 set 2-3 microns)
Hydraulic hand pump	Complete with SS-304- hydraulic cylinder, mechanical lock nut (5T locking pressure) and other accessories
Feed Pump	Air Operated Diaphragm Pump
Extra Plate	Provision for dummy plate
Gasket	1 complete set of Gasket
Cake trough	SS316L
Warranty	1 year
Maintenance and services	1 year
<ul style="list-style-type: none"> • Compact Small-Scale Reaction and Separation System with Reactor, In-line Homogenizer, and Filter Press are Interconnected with piping, slurry handling pump as required and mounted on MS Structure, Cladding with SS304. • All instrumentations: with BIS certification (attach document proof) • SS sheet test certificate for both SS 304 and SS 316L • Accessories (gaskets, valves, sensors, relays, etc.) for two years of routine application and maintenance. 	
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	Government eProcurement System	Government eProcurement System			
		Tender Details			
		Date : 12-Dec-2024 10:23 AM			
		 Print			
Basic Details					
Organisation Chain	Council of Scientific and Industrial Research CSMCRI-Bhavnagar - CSIR Purchase-CSMCRI - CSIR				
Tender Reference Number	10-53(953)/24-25/PB/T-56				
Tender ID	2024_CSIR_218925_1	Withdrawal Allowed	Yes		
Tender Type	Open Tender	Form of contract	Supply		
Tender Category	Goods	No. of Covers	2		
General Technical Evaluation Allowed	No	ItemWise Technical Evaluation Allowed	No		
Payment Mode	Not Applicable	Is Multi Currency Allowed For BOQ	No		
Is Multi Currency Allowed For Fee	No	Allow Two Stage Bidding	No		
Cover Details, No. Of Covers - 2					
Cover No	Cover	Document Type	Description		
1	Fee/PreQual/Technical	.pdf	Technical bid as per tender documents Sr. No. A to V		
2	Finance	.pdf	Bid form as per tender documents		
		.pdf	Price Schedule Form as per tender documents		
		.xls	BOQ		
Tender Fee Details, [Total Fee in ₹ * - 0.00]					
Tender Fee in ₹	0.00				
Fee Payable To	Nil	Fee Payable At	Nil		
Tender Fee Exemption Allowed	No				
EMD Fee Details					
EMD Amount in ₹	0.00	EMD Exemption Allowed	No		
EMD Fee Type	fixed	EMD Percentage	NA		
EMD Payable To	Nil	EMD Payable At	Nil		
Click to view modification history					
Work /Item(s)					
Title	Procurement of SMALL-SCALE REACTION AND SEPARATION SYSTEM WITH INTERCONNECTED PIPING				
Work Description	Procurement of SMALL-SCALE REACTION AND SEPARATION SYSTEM WITH INTERCONNECTED PIPING				
Pre Qualification Details	Procurement of SMALL-SCALE REACTION AND SEPARATION SYSTEM WITH INTERCONNECTED PIPING				
Independent External Monitor/Remarks	NA				
Show Tender Value in Public Domain	No				
Tender Value in ₹	0.00	Product Category	Miscellaneous Goods	Sub category	NA
Contract Type	Tender	Bid Validity(Days)	180	Period Of Work (Days)	120
Location	CSIR-CSMCRI BHAVNAGAR	Pincode	364002	Pre Bid Meeting Place	NA
	NA	Pre Bid Meeting Date	NA	Bid Opening Place	

Pre Bid Meeting Address					CSIR-CSMCRI BHAVNAGAR
Should Allow NDA Tender	No	Allow Preferential Bidder	Yes		

Preferential Bidder Category

S.No	Preference Category	Tolerance Percentage
1.	Make in India	20.00
2.	MSME	15.00

Critical Dates

Publish Date	11-Dec-2024 06:00 PM	Bid Opening Date	01-Jan-2025 11:30 AM
Document Download / Sale Start Date	11-Dec-2024 06:00 PM	Document Download / Sale End Date	30-Dec-2024 06:00 PM
Clarification Start Date	NA	Clarification End Date	NA
Bid Submission Start Date	24-Dec-2024 06:00 PM	Bid Submission End Date	30-Dec-2024 06:00 PM

Tender Documents

NIT Document	S.No	Document Name	Description	Document Size (in KB)	
	1	Tendernotice_1.pdf	NIT	780.44	
Work Item Documents	S.No	Document Type	Document Name	Description	Document Size (in KB)
	1	Tender Documents	TSC.pdf	Tender Documents	2884.03
	2	Other Document	prebidlink.pdf	Pre bid link	245.69
	3	BOQ	BOQ_243067.xls	BOQ	347.00

Auto Extension Corrigendum Properties for Tender

Iteration	No. of bids required for bid opening a tender	Tender gets extended to No. of days
1.	2	7

Bid Openers List

S.No	Bid Opener Login Id	Bid Opener Name	Certificate Name
1.	sdchauahan.eproc@csir.res.in	Sanjay Chauhan	SANJAY DINESHBHAI CHAUHAN
2.	rkhp.eproc@csir.res.in	Ravi Kumar Patel	RAVIKUMAR HASMUKHRAI PATEL
3.	kajald.eproc@csir.res.in	Kajal Dhameliya	KAJALBEN MOHANBHAI DHAMELIYA
4.	nch.eproc@csir.res.in	Nripendra Chandalia	NRIPENDRA CHANDALIA

GeMARPTS Details

GeMARPTS ID	OC2Y5YPQOSHD
Description	SMALL-SCALE REACTION AND SEPARATION SYSTEM WITH INTERCONNECTED PIPING
Report Initiated On	26-Nov-2024
Valid Until	26-Dec-2024

Tender Properties

Auto Tendering Process allowed	No	Show Technical bid status	Yes
Show Finance bid status	Yes	Stage to disclose Bid Details in Public Domain	Technical Bid Opening
BoQ Comparative Chart model	Normal	BoQ Comparative chart decimal places	2

BoQ Comparative Chart Rank Type	L	Form Based BoQ	No
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TIA Undertaking

S.No	Undertaking to Order	Tender complying with Order	Reason for non compliance of Order
1	TIA UNDERTAKING GEM	Agree	
2	PPP-MII Order 2017	Agree	
3	MSEs Order 2012	Agree	

Tender Inviting Authority

Name	Director CSIR-CSMCRI BHAVNAGAR
Address	Director CSIR-CSMCRI BHAVNAGAR

Tender Creator Details

Created By	Kajal Dhameliya
Designation	SSA
Created Date	11-Dec-2024 11:25 AM