

SCREW-ON OR MOVABLE IMMERSION HEATERS



CETAL

ELEMENTS

INDUSTRIAL

SCREW-ON IMMERSION HEATERS

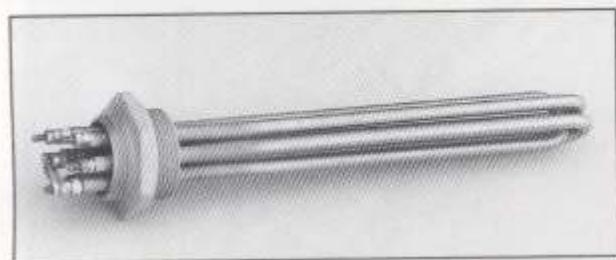
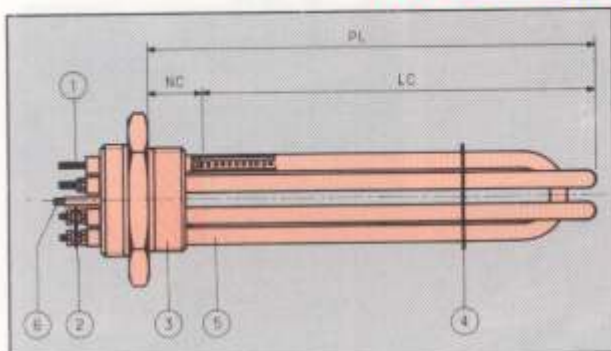
USE

Choice of type basically depends on the fluid to be heated.

This depends on the specific load :

- 10 W/cm² heating of water circulating
- 8 W/cm² water heating
- 4 W/cm² water heating, rinsing bath, low temperature soda solution, special oils, acid, circulating exchanging medium
- 2 W/cm² heating of oils and heavy fuels

CHARACTERISTICS

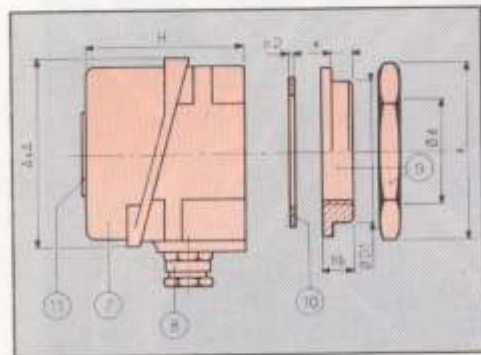


- 230 V heating elements for different connections
- Connected with threaded steel stem (1)
M4 for pipe diameter 8.5
M6 for pipe diameter 16
- 3 single hairpin heating elements (2) brazed onto brass screw head series 600 (3) held by one or two spacers (4) depending on immersion depth (PL)
- Fixing screw (5)
- Surface pressure 15 bars maximum
- Heated length (LC) must always be fully immersed stand on moulded housing cover

IMPORTANT : allowance to be made in space allocated for expansion.

ACCESSORIES

- Pivoting cover (7) with lateral packing box (PE) (8) and instruction plate (9)
- Welding ring (steel or stainless steel) or nut (brass or stainless steel) (3)
- To prevent ring deformation during welding, fit solid plug during this operation.
- Seal (10) : dependent on nature and temperature of medium to be heated
- Wrench
- Temperature control : see "Technical Information Catalog page 16".



Immersion	Ref.	45		49		77	
Cover	Ref.	ORPM	ORS 45	ORPM	ORS 49	ORGM	ORS 77
	A x A	85 x 85	165 x 120	85 x 85	165 x 120	110 x 110	165 x 120
	H	80	65	80	65	105	65
Welding ring	hb	18	18	18	18	18	18
	a	13	13	13	13	13	13
	D1	55	55	60	60	90	90
Nut	SW	60	60	60	60	95	95
	d	M 4.5	M 4.5	1" 1/2 G	1" 1/2 G	M77	M77
Seal	d	45	45	48	48	77	77

OTHER OPTIONS

- Tinned or nickel-plated copper pipe
- Immersion heaters with sleeve for temperature control
- Cap 1" 1/4 - 2" - 2" 1/2
- All stainless steel immersion heaters : tig welded circuits on stainless steel screw head for standard versions (pages 3, 4, 5 & 7)

PLACING ORDERS

State reference, rating, immersion depth (PL), assembly accessories.

Example : 77-K16-060 - 6000W - 230/400V PL 310 mm - Pivoting cover



SCREW-ON IMMERSION HEATERS STANDARD VERSION

LOAD 10 W/cm²

Incoly 825 tube

W	Screw head M 77		
	PL mm	Weight kg	Ref.
5000	225	2,30	77-A 16-050
6000	260	2,50	77-A 16-060
8000	325	2,85	77-A 16-080
9000	360	3,00	77-A 16-090
10000	390	3,15	77-A 16-100
12000	460	3,60	77-A 16-120
15000	560	4,15	77-A 16-150
18000	660	4,70	77-A 16-180
20000	725	5,10	77-A 16-200
24000	855	5,85	77-A 16-240
30000	1055	6,95	77-A 16-300*
35000	1220	7,40	77-A 16-350*

* 400 V

LOAD 8 W/cm²

copper tube : - pickled : series 45-K8 and 77-K 16
- nickel-plated : series 49-K8

W	Screw head M 45			Screw head M 77			Screw head 1" 1/2		
	PL mm	Weight kg	Ref.	PL mm	Weight kg	Ref.	PL mm	Weight kg	Ref.
1000	160	0,50	45-K8-010*						
1500	160	0,60	45-K8-015				160	0,60	49-K8-015
2000	185	0,65	45-K8-020				185	0,65	49-K8-020
3000	260	0,80	45-K8-030	170	2,00	77-K16-030	260	0,80	49-K8-030
4000	340	0,90	45-K8-040	225	2,30	77-K16-040	340	0,90	49-K8-040
4500	380	0,95	45-K8-045				380	0,95	49-K8-045
5000				270	2,55	77-K16-050			
6000	490	1,25	45-K8-060	310	2,80	77-K16-060	490	1,25	49-K8-060
7500	600	1,35	45-K8-075				600	1,35	49-K8-075
8000				390	3,20	77-K16-080			
9000	710	1,55	45-K8-090	435	3,40	77-K16-090	710	1,55	49-K8-090
10000				470	3,65	77-K16-100			
12000	990	2,00	45-K8-120	550	4,10	77-K16-120	990	2,00	49-K8-120
15000				685	4,85	77-K16-150			
18000				810	5,60	77-K16-180			
20000				890	6,00	77-K16-200			
24000				1055	6,95	77-K16-240			
30000				1305	8,40	77-K16-300**			
35000				1500	9,60	77-K16-350			

* 2 tubular heaters ** 400 V

LOAD 4 W/cm²

stainless steel tube AISI 316TI

W	Screw head M 45			Screw head M 77			Screw head 1" 1/2		
	PL mm	Weight kg	Ref.	PL mm	Weight kg	Ref.	PL mm	Weight kg	Ref.
1000	180	0,65	45-C8-010				180	0,65	49-C8-010
1500	250	0,75	45-C8-015				250	0,75	49-C8-015
2000	300	0,85	45-C8-020				300	0,85	49-C8-020
3000	440	1,00	45-C8-030	310	3,15	77-C16-030	440	1,00	49-C8-030
4000	600	1,35	45-C8-040				600	1,35	49-C8-040
4500	660	1,45	45-C8-045	435	3,55	77-C16-045	660	1,45	49-C8-045
6000	850	1,75	45-C8-060	540	4,00	77-C16-060	850	1,75	49-C8-060
9000				810	5,25	77-C16-090			
12000				1055	6,95	77-C16-120			

LOAD 2 W/cm²

stainless steel tube AISI 321

W	Screw head M 45			Screw head M 77			Screw head 1" 1/2		
	PL mm	Weight kg	Ref.	PL mm	Weight kg	Ref.	PL mm	Weight kg	Ref.
500	250	0,60	45-V8-005*						
750	250	0,75	45-V8-007				250	0,75	49-V8-007
1000	320	0,85	45-V8-010				320	0,85	49-V8-010
1500	470	1,05	45-V8-015				470	1,05	49-V8-015
2000	600	1,35	45-V8-020	350	2,25	77-V16-020	600	1,35	49-V8-020
2500	760	1,60	45-V8-025				760	1,60	49-V8-025
3000	920	1,75	45-V8-030	510	2,45	77-V16-030	920	1,75	49-V8-030
6000				980	6,10	77-V16-060			
8000				1280	7,65	77-V16-080			
9000				1550	9,15	77-V16-090			
10000				1720	10,00	77-V16-100			
12000				1830	10,60	77-V16-120			

* 2 Tubular heaters

N.B.

Equipment fitted screw head M77 can be supplied in the same size with a 2" 1/2 screw head, in which case the reference is 76 and not 77.

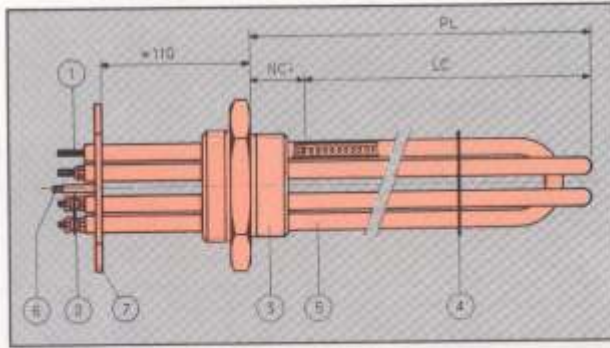
SCREW-FIXED IMMERSION HEATERS STANDARD

STAND OFF COVER USE

Heating or heat-exchanging medium to temperatures above 120°C

LOAD 2 W/cm²

stainless steel tube AISI 321



CHARACTERISTICS

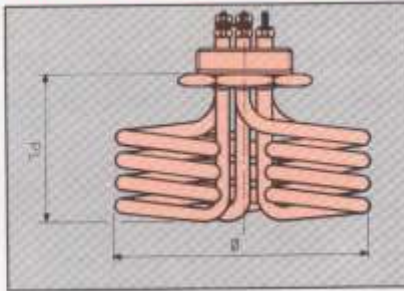
- Load 2 W/cm²
- 230 V heating elements for varying connections stand off ①
- cover support, 110 mm ①
- connectors with threaded of steel stem ①
 - M4 for pipe diameter 8.5
 - M16 for pipe diameter 16
- 3 single hairpin heating elements ② brazed onto brass screw head ③ held by one or two spacers ④ depending on immersion depth (PL)
- fixing screw ⑧
- Surface pressure 15 bars maximum
- Heated length (LC) must always be fully immersed
- electrical characteristics : cf page 3 "Load 2 W/cm²"
- identical reference but specify "standoff" by using letter "d", example : 45-V8 030 d
- Offset cover

ACCESSORIES see page 2.

BOTTOM TANK IMMERSION HEATERS USE

Heating of fluid by assembly at bottom of tank

- 8 W/cm² water
- 2 W/cm² thermal fluid, chemical product



CHARACTERISTICS

- 230 V heating elements for varying connections
- connection connectors with threaded steel stem M4 for pipe diameter 8.5
- 3 shaped heating elements brazed onto brass screw head
- Surface pressure 15 bars maximum

LOAD 8 W/cm²

pickled copper tube

W	Screw head M 45				Screw head M 77			
	Ø mm	PL mm	Weight kg	Ref.	Ø mm	PL mm	Weight kg	Ref.
1500	140	50	0,60	45FC-K015				
3000	140	65	0,80	45FC-K030				
4500	190	65	0,95	45FC-K045				
6000	190	72	1,25	45FC-K060				
7500	240	86	1,35	45FC-K075				
9000	240	100	1,55	45FC-K090				
12000	240	100	2,00	45FC-K120				
15000*					300	100	2,90	77FC-K150
18000*					300	100	3,30	77FC-K180
24000*					300	100	4,25	77FC-K240

*6 heating elements

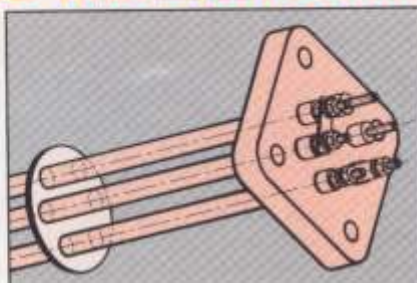
LOAD 2 W/cm²

stainless steel tube 321

W	Screw head M 45				Screw head M 77			
	Ø mm	PL mm	Weight kg	Ref.	Ø mm	PL mm	Weight kg	Ref.
1000	180	55	0,9	45FC-V10				
1500	230	55	1,2	45FC-V15				
2000	250	55	1,4	45FC-V20				
2500	300	55	1,6	45FC-V25				
3000	300	55	1,9	45FC-V30				
4000					250	85	2,9	77FC-V40
6000					300	85	4,0	77FC-V60

ACCESSORIES see page 2

FLANGED IMMERSION HEATERS



USE Heating of fluids

CHARACTERISTICS

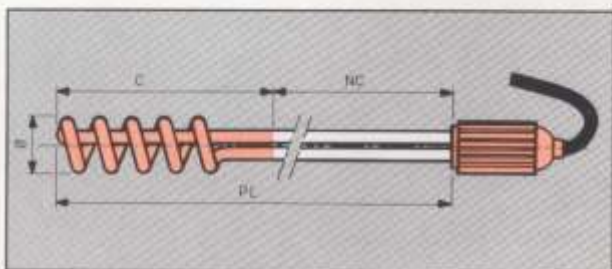
- 230 V heating elements for varying connections
- cooper or stainless steel pipes brazed onto soft or stainless steel flange 105 x 105 x 25
- connectors with threaded steel stem
 - M4 for pipe diameter 8.5
 - M16 for pipe diameter 16
- electrical characteristics and dimensions : please inquire

ACCESSORIES

MOVABLE IMMERSION HEATERS LOW POWER

USE

Heating of liquids in open receptacles for high liquid levels with little variation. The choice of model depends on the admissible load for the fluid to be heated.
Easy handling for insertion and exchange at any time.
Immediate insertion without modification of receptacle to be heated.



STANDARD VERSION

IMMERSION HEATER FOR WATER Series B (single phase) or TR (three-phase)

- copper pipe diameter 6.5 or 8.5 mm
- cable with bakelite covering Ref. 40037 B
- 3 or 4 conductor cable including earth
Length 1250 mm - supplied without plug
- fixing bracket
- supply : single phase 230 V, three-phase 230/400 V
- immersed length PL : 500 mm
un-heated length NC : 300 mm
heated length LC : 200 mm

W	SINGLE PHASE			THREE PHASE		
	Ø mm	Weight kg	Ref.	Ø mm	Weight kg	Ref.
1000	40	0,80	B10			
1500	45	0,85	B15			
2000	50	0,95	B20			
3000	50	1,15	B30	95	1,40	TR30
4500				100	1,50	TR45
6000				100	2,70	TR60*
9000				115	2,85	TR90*

*Cabling under aluminium cover Ref. 40045 A

IMMERSION HEATER FOR OIL Series DH

- stainless steel pipe diameter 8.5 mm
- cable with bakelite covering Ref. 40037 B
- 3 conductor cable including earth
Length 1250 mm - supplied without plug
- supply 230 V
- immersed length PL : 750 mm
un-heated length NC : 500 mm

W	Ø mm	LC mm	Weight kg	Ref.
500	45	75	0,90	DH 5
750	45	100	0,95	DH 7
1000	45	130	1,05	DH10

IMMERSION HEATER FOR WINE Series RV

- stainless steel pipe diameter 8.5 mm
- cable with bakelite covering Ref. 40037 B
- 3 conductor cable with earth
Length 1250 mm - supplied without plug
- supply 230 V
- curved construction available on request
- immersed length PL : 750 mm
un-heated length NC : 500 mm

W	Ø mm	PL mm	LC mm	Nc mm	Weight kg	Ref.
1000	34	1000	250	750	1,10	RV 10
1500	34	1125	375	750	1,35	RV 15
2000	34	1250	500	750	1,50	RV 20
3000	34	1500	750	750	1,60	RV 30
3 x 1000	34	1250	500	750	2,7	RV-TR 30*

* Cable with aluminium covering Ref. 40035 - 4 conductor cable including 1 earth, length 1250 mm without plug - 230/400 V supply

IMMERSION HEATER FOR ACID Series PB

- lead-covered stainless steel pipe diameter 12 mm
- cable with bakelite covering Ref. 40037 V
- 3 conductor cable including earth
Length 2000 mm - supplied without plug
- supply 230 V
- immersed length PL : 700 mm
un-heated length NC : 500 mm
heated length LC : 200 mm

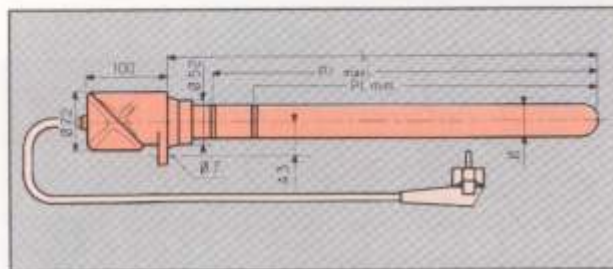
W	Ø mm	Weight kg	Ref.
2000	80	3,10	PB 20
3000	80	3,10	PB 30

SPECIAL VERSION

- Electrical characteristics on request
- Dimensions as per drawing

IMMERSION HEATERS FOR ACID OR CORROSIVE BATHS

DUAL PROTECTED BATH HEATER



USE

- rinsing or washing water
- degreasing, pickling, alkaline baths
- acid solutions
- electrolytes

CHARACTERISTICS

- stainless steel heating element centred in protective sleeve
- protective sleeve
 - standard: porcelain, stainless steel AISI 321, Teflon-coated steel
 - on request: quartz, titanium, steel, industrial glass, lead-coated steel
- plastic cover resistant to heat and corrosion, degree of protection IP 65
- 2000 mm connecting cable with moulded plug
- 230 V supply
- vertical assembly

OTHER OPTIONS

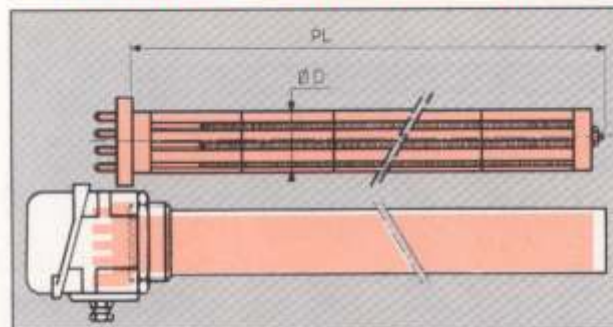
- bath heater with integrated thermostat
- bath heater for large tank
- bath heater of customised length, rating and voltage

ACCESSORIES

- Painted iron fittings

L: immersed length
PL: immersed depth

BATH HEATER ON SPRING BARREL MOUNTS



ASSEMBLY

elements mounted in gloves to permit replacement without emptying container (circulation heater tank)

CHARACTERISTICS

- 80/20 nickel chromium resistors, spiral-wound, fitted on soapstone spring barrel mounts
- threaded connectors
- voltage, rating and length on request
- available diameters: 24 - 28 - 32 - 35 - 47 - 58 mm

N.B.

Specify vertical or horizontal assembly

IMMERSION HEATERS FOR ACID BATHS

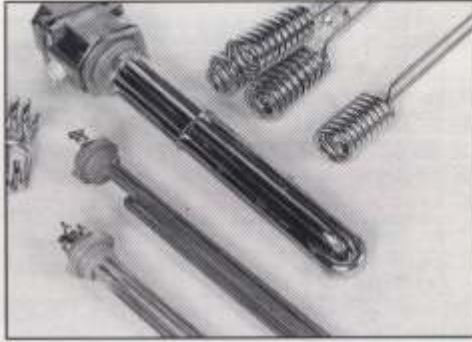
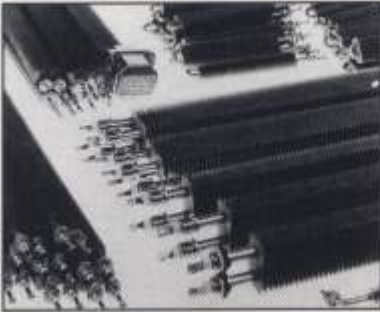
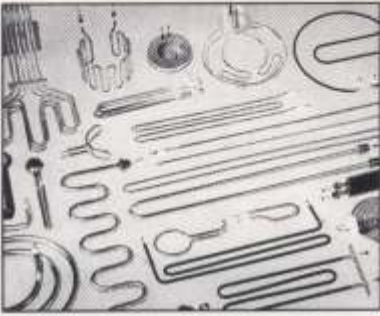


CHARACTERISTICS

- stainless steel heating elements covered with PTFE or other protection
- load 2 W/cm²
- minimum space between elements: 1.5 times the diameter

OTHER OPTIONS

- dimensions, special electrical characteristics: please inquire.



TECHNICAL DOCUMENTATION

A series of catalogues is available on request giving detailed information on each product line.

- TECHNICAL INFORMATION/MANUFACTURING RANGE
- SCREW-ON OR MOVABLE IMMERSION HEATERS
- FLANGE/IMMERSION HEATERS
- FINNED STRIP HEATERS/AIR DUCT HEATERS
- CARTRIDGES AND BAND HEATERS
- THP (Très Haute Performance) HEATERS

