

DRE

Electric commercial water heater

DRE - 52/80/120

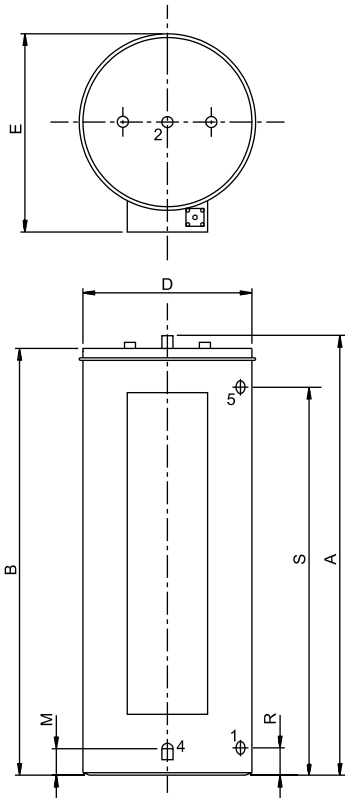


Three phase electric water heater, primarily for commercial applications • Three to nine Incoloy-sheathed elements with a maximum rating of 54 kW • Each element is independently controlled via its own control thermostat (adjustable: 49 - 82°C) and a manually resettable high-limit thermostat • Cascade control of the elements for more efficient and faster heating-up times • All elements and thermostats are fuse-protected • PermaGlas Ultra Coat second-generation glass coating technology helps to prevent corrosion • Replaceable magnesium anode • Safety float switch • Optional ancillaries: Unvented kits • Destratification pump kit • Powered anodes • Alternate kW loadings

Technical specifications

		DRE 52-9	DRE 52-18	DRE 52-36	DRE 80-9	DRE 80-18	DRE 80-36	DRE 80-54	DRE 120-9	DRE 120-18	DRE 120-36	DRE 120-54	
Electrical data													
Input	kW	9	18	36	9	18	36	54	9	18	36	54	
Current	A	11-13	23-25	46-50	11-13	23-25	46-50	69-75	11-13	23-25	46-50	69-75	
Elements	-	3	3	6	3	3	6	9	3	3	6	9	
Power supply	VAC/Hz	415 (-15%/+10%) / 50 Hz (±1 Hz)											
General													
Weight empty	kg	73			110				160				
Maximum weight	kg	273			410				610				
Storage capacity	l	200			300				450				
Max. temperature setting	°C	82	82	82	82	82	82	82	82	82	82	82	
Maximum working pressure	(bar) kPa	(8) 800			(8) 800				(8) 800				
Draw-off capacity													
T _{cold} = 10°C / T _{set} = T _{max}													
30 min. ΔT=44°C	l	341	420	578	472	551	709	868	668	747	906	1064	
60 min. ΔT=44°C	l	429	596	930	560	727	1061	1395	756	923	1258	1592	
90 min. ΔT=44°C	l	517	772	1282	648	903	1413	1923	844	1099	1609	2120	
120 min. ΔT=44°C	l	605	948	1634	736	1079	1765	2451	932	1275	1961	2647	
Continuous ΔT=44°C	l/h	176	352	704	176	352	704	1055	176	352	704	1055	
Heating-up time ΔT=44°C	min.	68	34	17	102	51	26	17	153	77	38	26	
30 min. ΔT=50°C	l	300	370	509	415	485	624	764	588	658	797	936	
60 min. ΔT=50°C	l	377	525	819	493	640	934	1228	665	813	1107	1401	
90 min. ΔT=50°C	l	455	679	1128	570	795	1243	1692	743	967	1416	1865	
120 min. ΔT=50°C	l	532	834	1438	647	949	1553	2157	820	1122	1726	2330	
Continuous ΔT=50°C	l/h	155	310	619	155	310	619	929	155	310	619	929	
Heating-up time ΔT=50°C	min.	78	39	19	116	58	29	19	174	87	44	29	
30 min. ΔT=55°C	l	273	336	463	378	441	567	694	535	598	725	851	
60 min. ΔT=55°C	l	343	477	744	448	582	849	1116	605	739	1006	1273	
90 min. ΔT=55°C	l	414	618	1026	518	722	1130	1539	675	879	1287	1696	
120 min. ΔT=55°C	l	484	758	1307	589	863	1412	1961	746	1020	1569	2118	
Continuous ΔT=55°C	l/h	141	281	563	141	281	563	844	141	281	563	844	
Heating-up time ΔT=55°C	min.	85	43	21	128	64	32	21	192	96	48	32	
Shipping data													
Weight incl. packaging	kg	86			125				176				
Width packaging	mm	680			770				890				
Height packaging	mm	1570			1690				1760				
Depth packaging	mm	810			920				1050				

Dimensions

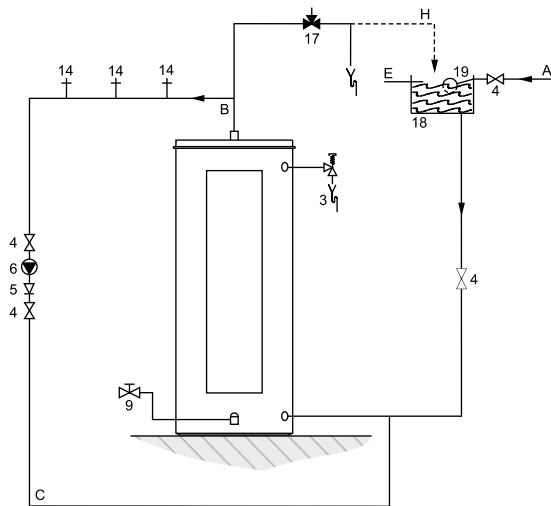


	DRE 52	DRE 80	DRE 120
A	1460	1580	1600
B	1420	1540	1570
D	560	640	750
E	690	790	910
M	125	125	125
R	125	125	125
S	1230	1335	1380
1	Cold water	1 1/4-14 NPT	
2	Hot water	1 1/4-14 NPT	
4	Tank drain valve	3/4-14 NPT	
5	T&P valve	3/4-14 NPT	
6	Anode connection	Rp3/4	

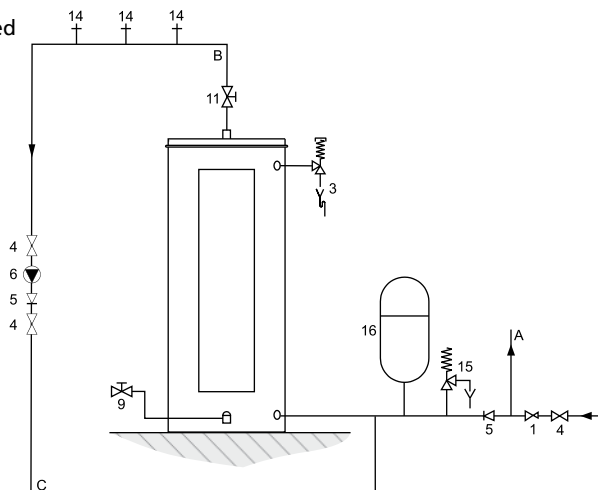
Dimensions in mm.

Installation diagrams

Vented



Unvented



- 1 Pressure reducing valve
- 3 T&P valve
- 4 Stop valve
- 5 Non-return valve
- 6 Circulation pump
- 9 Drain valve
- 11 Service valve
- 14 Hot water tap
- 15 Expansion valve
- 16 Expansion vessel
- 17 Three way valve
- 18 Water cistern
- 19 Float valve

- A Cold water supply
 B Hot water outlet
 C Circulation pipe
 E Overflow pipe
 H Expansion pipe

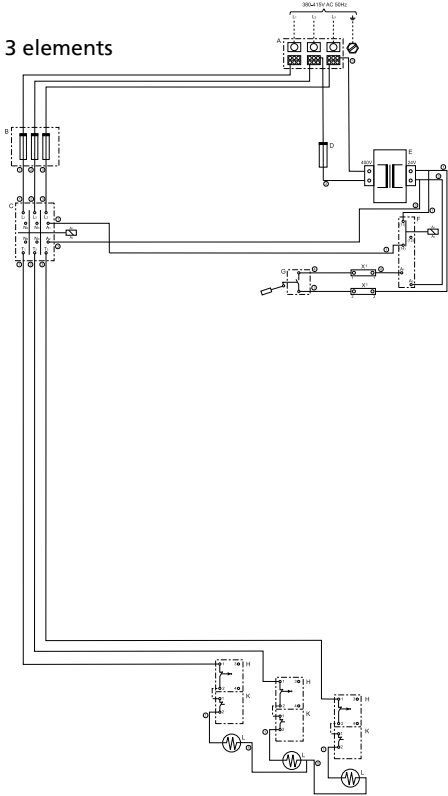
A.O. Smith unvented system kits utilise combination valves

Further installation and connection details can be found in the Installation & Commissioning Manual.



Electrical diagrams

3 elements



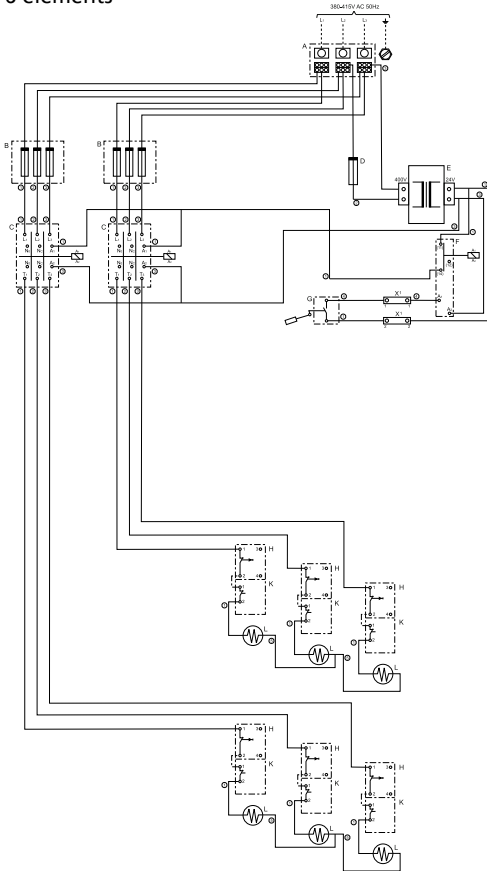
COMPONANTS

- A Terminal block
- B Fuse
- C Relais
- D Fuse
- E Transformator
- F Safety relais
- G Float switch
- H Maximum thermostat
- K Control thermostat
- L Electrical element
- X¹ Terminal block

Color code cables

- ① Black
- ② Red
- ③ Blue
- ④ Brown
- ⑤ White

6 elements



9 elements

