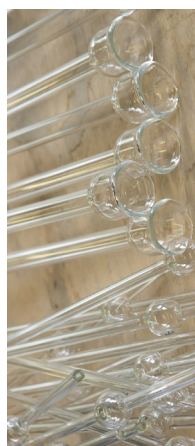


PETROLEUM GLASSWARE

GLASSWARE



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 **NORMALAB**
www.normalab.com

SCIENTIFIC GLASS BLOWING

NORMALAB France S.A.S. is specialized in the scientific glass blowing since the beginning of the company in 1963. Thanks to this experience of more than fifty years and a team of nine glass-blowers accustomed to work with various techniques, **NORMALAB's** workshop is the French leader of scientific glass blowing specialized in the oil field.



The activity and know-how are vast. The specialists share their time between:

- Standard production
- OEM manufacturing
- Custom-tailored design
- Repair

From the beginning the workshop works with three types of glass:

- Sodocalcique (ordinary)
- Borosilicate (Duran®)
- Quartz

The blowers master various techniques:

- Blowtorch works
- Turned glass
- The moulding
- Inactinic glass (scented with amber)
- Silvering
- Grinding and polishing
- Marking (engraving and transfer)

Also in order to offer a complete service to its customers, Normalab proposes the checking and the calibration of various articles made of glass. With this intention the company is certified according to ISO 9001. Delivered certificates ensure a conformity with the international standards like ASTM, IP, EN, ISO, DIN, JIS, GOST ...

NORMALAB's reputation is done, its distillation flasks and viscometer tubes* are impossible to circumvent in the oil laboratories. Their accuracy and solidity make a world wide reference of it.

Quality, robustness, and accuracy of work is the daily objective of this historical workshop.

* Find our full range starting from page 17

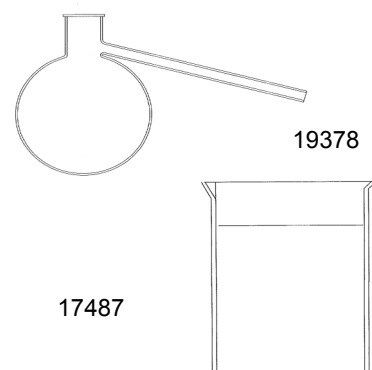


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ASTM D 20 - D402 - AFNOR T66003 - IP 27

Reference	Description
12613	Graduated cylinder with neck (100 ml)
19378	Distillation flask (500 ml)

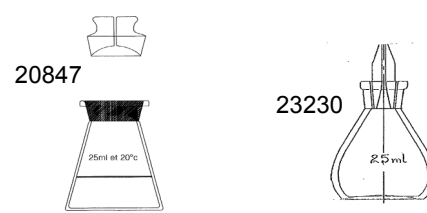


ASTM D 36 - NF EN 1427 - ISO 4625

Reference	Description
17487	Calibrated beaker ASTM D36—Total Volume 770 ml Volume under line 584 ml
17490	Calibrated beaker ISO 1427 —Total Volume 770 ml Volume under line 561 ml

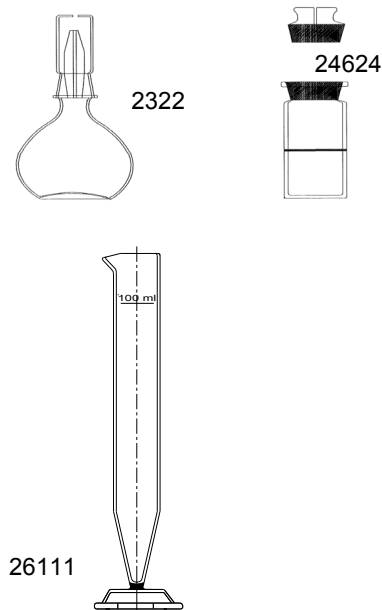
ASTM D 70 - NF EN ISO 3838 - IP 190

Reference	Description
20847	Pycnometer A - 24/30 ml (Hubbard model)
24624	Pycnometer B - 24/30 ml (Bingham model)
23229	Pycnometer C - 24/30 ml (Warden model)
23230	Pycnometer D - 24/30 ml (Capillary-stopper)



**ASTM D 86 - D 1078 - E 133 - IP 123 - IP 191
- DIN 51751 - NF EN ISO 3405**

Reference	Description
For Normalab NDI 450	
19420	Distillation flask (100 ml)
24019	Distillation flask (125 ml) (minimum order of 5)
19426	Cylinder 200 ml
12609EC	Graduated cylinder economic (5 ml) Simax
26111	Graduated receiver glass with foot (100 ml)
19422	Distillation flask (200 ml) (for ASTM D850, D1078 and IP 195)
40052	125 ml black bottom flask (D86)
40043	200 ml black bottom flask (D1078)
19420	100 ml distillation flask (ASTM D 86)
19422	200 ml distillation flask (ASTM D850, D1078, D86 groups 1&2)
24500	100 ml glass foot graduated receiver engraved
60516	100 ml glass foot graduated receiver with NORMALAB - no-condensation treatment

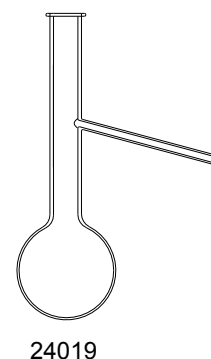


For Normalab NDI Classic

19425	Graduated receiver (100 ml)
24019	Distillation flask (125 ml) (minimum order of 5)
12609EC	Graduated cylinder economic (5 ml) Simax
19422	200 ml distillation flask (ASTM D1078, ASTM D850)

For Normalab NDI Basic

19425	Graduated receiver (100 ml)
24019	Distillation flask (125 ml) (minimum order of 5)
12609EC	Graduated cylinder economic (5 ml) Simax
19422	200 ml distillation flask (ASTM D1078, ASTM D850)

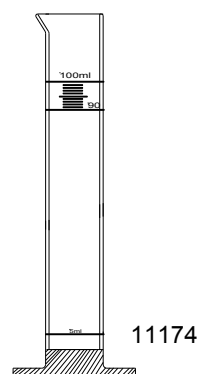


**ASTM D 86 - D 1078 - E 133 - IP 123 - IP 191
- DIN 51751 - NF EN ISO 3405**

Reference	Description
For Optidist	
25030	Distillation flask (125 ml) for "Optidist" (minimum order of 5)
25032	Distillation flask (200 ml) for "Optidist"
25031	Graduated receiver (100 ml) for "Optidist"
ADU 4	
19429	Distillation receiver with brass foot (100 ml) for auto version (<i>Brass base ref 12921, cylinder ref 12919, joint ref 30187N</i>)
20082	Distillation flask (125 ml) CN 19/26 (minimum order of 5)
Other options and application	
19423	Distillation flask (250 ml)
11174	Receiver conique feet 100ml
23375	125 ml distillation flask with shank & holed cork for probe (minimum order of 5)
23376	200 ml distillation flask with shank & holed cork for probe
23378	M/F shank for condenser tube entry
25641	Graduated receiver (5 ml) Simax 0,4ml
12609	Graduated cylinder (5 ml) Schott 0.9 ml



25030



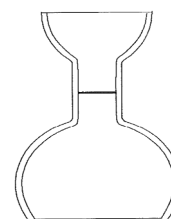
11174

ASTM D 87 - D402 - AFNOR T60114 - IP 55

Reference	Description
19361	Test tube with paraffin (3ml)

ASTM D 88 - D 224 - E 102

Reference	Description
11175	Graduated receiver 20-25-75 ml
11438	Saybolt flask (60 ml)

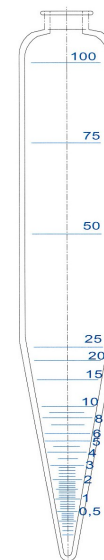


11438

**ASTM D 91 - D 96 - D 893 - D 1796 - D 4007 - T60156 - IP 75
- DIN 51793 - NF ISO 3731**

Reference	Description
19319	8" cone-shaped tube (100 ml)
19437	Pear shaped tube (100 ml) with 3 ml graduated tip
19438	Pear shaped tube (100 ml) with 1.5 ml graduated tip

19319



ASTM D 95 - AFNOR T60113 - IP 74 - ISO 3733

Reference	Description
12852	Round bottom flask RIN24/29 (500 ml)
13142	Liebig condenser RIN24/29 (400 mm)
19357	10 ml : 1/10 Dean Stark with conical bottom
21456	25 ml : 1/5 Dean Stark with conical bottom

ASTM D 97 - D 2500 - AFNOR T60105 - IP 15 - ISO 3016

Reference	Description
19439	Test tube for manual apparatus
21146	Test Tube for Pour Point
21147	Test tube with glass mirror for Cloud and Pour Point
21150	Test Tube with platinum mirror for Cloud and Pour Point

ASTM D 322 - IP 23 - DIN 51565

Reference	Description
12855	Round bottom flask RIN24/29 (1 l)
13142	Liebig condenser RIN24/29 (400 mm)
17966	Trap RIN24/29 (5 ml)

ASTM D 381 - ISO 6246 - IP 131 - DIN 51784

Reference	Description
16138	Test beaker (100 ml)

ASTM D 473 - ISO 3735 - IP 53 - DIN 51789

Reference	Description
10739	Water cup with glass hook
10763	Extraction thimble, alundum
19012	Extraction flask (1 liter)

ASTM D 524 - AFNOR T60117 - IP 14

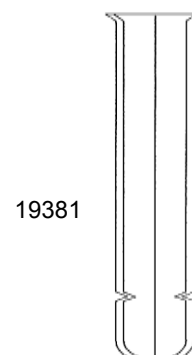
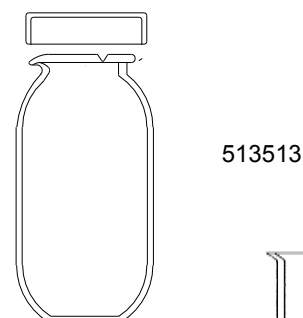
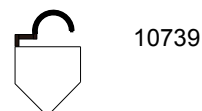
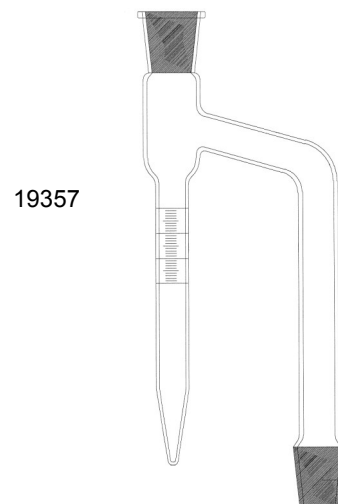
Reference	Description
19365	Heat-resistant glass coking bulb

ASTM D 525 - NF EN ISO 7536 - M07013

Reference	Description
21688	Glass test container without cover
513513	Glass test container with cover
513514	Cover for container

ASTM D 566 - D 2265 - AFNOR T60102

Reference	Description
19381	Dropping point test tube



ASTM D 611 - AFNOR M07021 Method II

Reference	Description
10142	2-stroke pipette (5 ml)
10143	2-stroke pipette (10 ml)
12780	Test tube 25x150mm
19322	Jacket
513113	Manual stirring

ASTM D 665 - D 3603 - AFNOR T60151 - IP 135 - DIN 51585

Reference	Description
19382	Beaker (400 ml)

ASTM D 721 - D 3235 - AFNOR T60120 - IP 158 - DIN 51571-2

Reference	Description
19367	Complete filter tube RIN 24/29
21001	Complete filter assembly with certificate

ASTM D 892 - NF ISO 6247 - IP 146 - DIN 51566

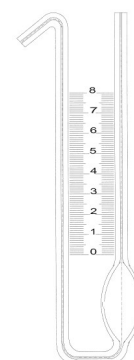
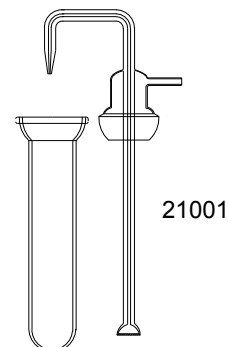
Reference	Description
19369	Graduated cylinder (1 liter)
24795	Diffuser stone, calibrated (with certificate, with rod)
24803	Stainless steel diffuser stone (with certificate, with rod)
24803	Stainless steel diffuser stone (with certificate, without rod)
20740	Borosilicate glass tank

ASTM D 941 - D 1481 - IP 142 - DIN 51757

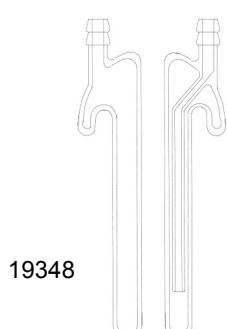
Reference	Description
19386	Lipkin pycnometer

ASTM D 943 - D 2274 - D 4310 - NF EN ISO 12205 - 4263 - DIN 51587

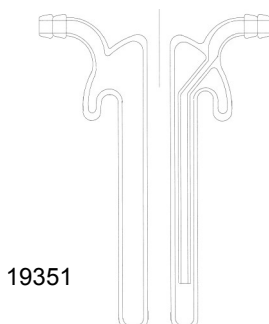
Reference	Description
19347	Test container
19348	Mushroom condenser
19349	Oxygen delivery tube (D 943)
19351	Mushroom condenser (D2274)
21696	Complete oxidation cell (D 943/D 2893)
21697	Complete oxidation cell (D 2274 /D 4310)



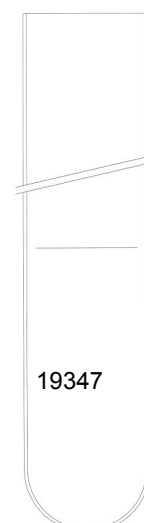
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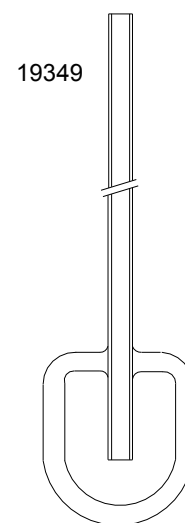
19348



19351



19347



19349

ASTM D 1177

Reference	Description
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23239 Dewar freezing tube



23239

ASTM D 1217

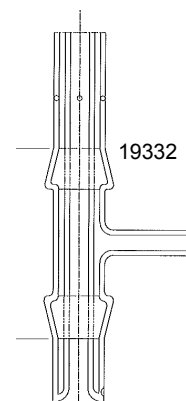
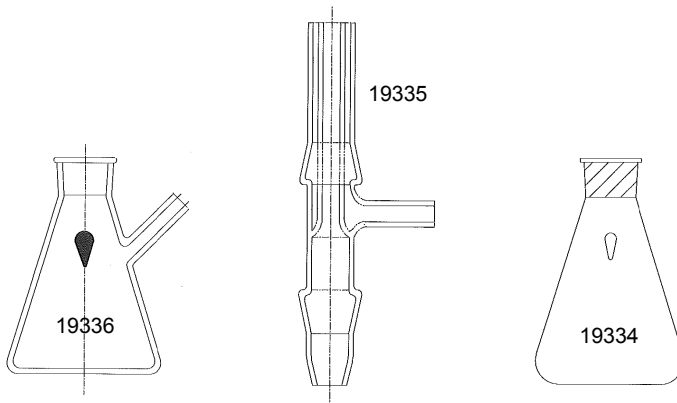
Reference	Description
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19393 Bingham density bottle (25 ml)

ASTM D 1266 - AFNOR M07031 - IP 107

Reference	Description
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- 19330 Absorber
- 19331 Chimney
- 19332 Burner for nonaromatic samples
- 19333 Spray trap
- 19334 Flask (25 ml) for nonaromatic samples
- 19335 Burner for aromatic samples
- 19336 Flak (25 ml) for aromatic samples



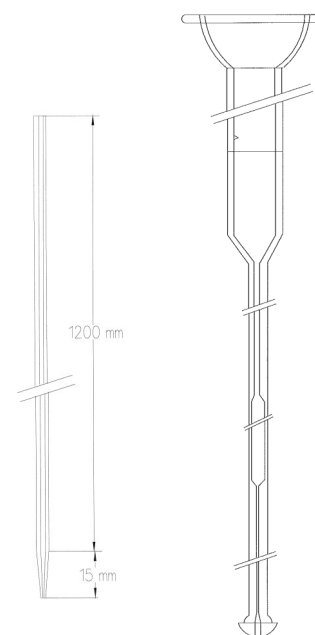
ASTM D 1319 - AFNOR M07024 - IP 156 - ISO 3837 - DIN 51791

Reference	Description
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- 19023 Standard wall tubing (lower part)
- 19325 FIA True Bore adsorption column
- 19572 Upper connection RIS 28/12
- 19582 Outlet for true bore column (S12/2)
- 21700 Standard adsorption column (upper part)
- 21701 Low parts for FIA standard column (pack of 25)



19582



21701

ASTM D 1401 - AFNOR T60125 - ISO 6614

Reference	Description
11470	Borosilicate glass graduated cylinder (100 ml)

ASTM D 1500 - ISO 2049 - IP196 - DIN 51578

Reference	Description
19353	Glass sample jar

ASTM D 1837 - D 2158 - AFNOR M41012 - IP 317

Reference	Description
19350	Graduated weathering cylinder (100 ml)

ASTM D 2001

Reference	Description
19398	Set of glassware for depentanization

ASTM D 2002

Reference	Description
19399	Complete adsorption column with stopper (method B)

ASTM D 2003

Reference	Description
13603	Spherical ground joint with nipple
19400	High efficiency column

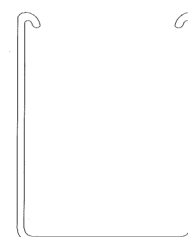
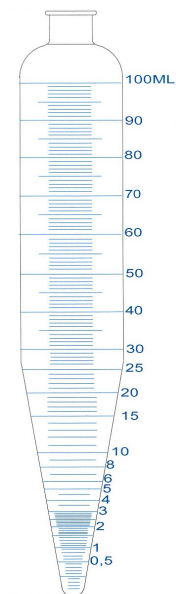
ASTM D 2272 - IP 229

Reference	Description
21338	Sample container, made of borosilicate glass
21389	Catalyst copper coil (ready to use)



19353

19350



21338

ASTM D 2273

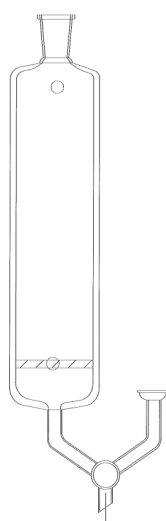
Reference	Description
19435	Cone-shaped tube 100 ml with tip

19435

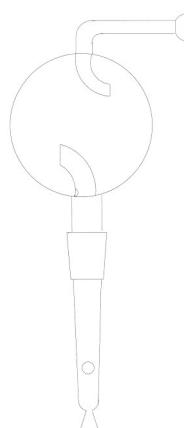


ASTM D 2784 - NF EN 24260 - ISO 4260

Reference	Description
20928	Quartz combustion chamber
20983	Absorber with fritted plate
20984	Trap for wickbold



20983



20984

ASTM D 2386 - NF EN ISO 3013 - IP 16 - DIN 51421

Reference	Description
513462	Jacketed sample tube
513466	Dewar flask (double wall)

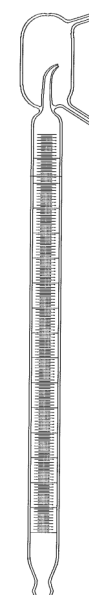
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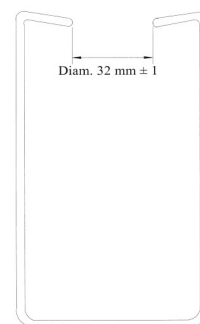
ASTM D 2623

Reference	Description
Burette for reference mixture	
19326	Lead burette (3 ml)
19327	Lead burette (4 ml)
19358	Burette (100 ml) without ball nor valve
19434	Burette (400 ml) auto-fill with tap, graduated in 0.5% and 2 ml
20935	Burette (200 ml) without ball nor valve
19329	Burette (200 ml) with ball without valve
20936	Burette (400 ml) with ball without valve

19358

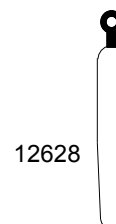


ASTM D 2872	
Reference	Description
23680	Standardized glass container RTFOT

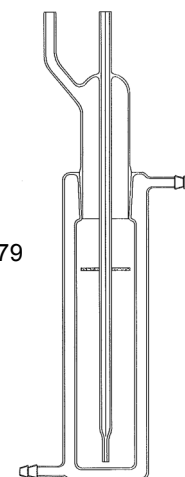


23680

ASTM D 3427 - NF ISO 9120 - T60149	
Reference	Description
12627	Complete Impinger cylinder with joints, clamps and tips
12628	Plunger (5 ml)
12629	Plunger (10 ml)
19379	Complete Impinger graduated receiver

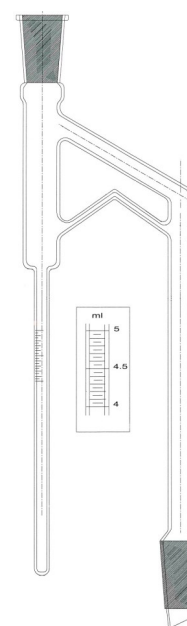


12628



19379

ASTM D 4006	
Reference	Description
21182	Condenser RIN 24/40 bottom
21183	Drying tube
21184	Dean Stark (5 ml) RIN 24/40
21185	Round bottom flask RIN 24/40 (1 liter)

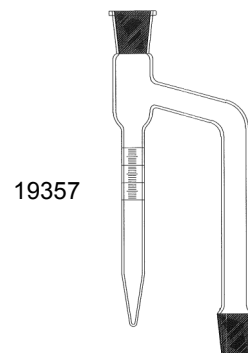


21184

ASTM D 4530 - ISO 10370	
Reference	Description
For Normalab device	
41001	Borosilicate glass sample vials (2 ml) - Pack of 150
41002	Borosilicate glass sample vials (16 ml) - Pack of 45
41003	Quartz sample vial (2 ml)
41004	Quartz sample vial (16 ml)
41026	Vials (4 ml) ISO 10370 - Pack of 75
41046	Vials (16 ml) single use - Pack of 144
41047	Vials (2 ml) single use - Pack of 144

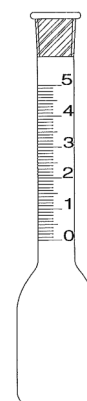
ASTM E 123 - NF T60113

Reference	Description
19357	Dean-Stark (10 ml) cone-shaped - RIN 24/29
19418	Dean-Stark (5 ml) - RIN 24/40
19419	Dean-Stark (10 ml) - RIN 24/40



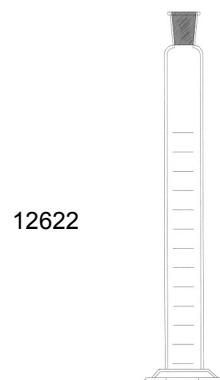
ISO 3840 - IP 145

Reference	Description
19315	Standard sulfonation flask (10 ml)
19316	Precision sulfonation flask (10 ml)
19317	Precision sulfonation flask (5 ml)
19318	Flask methode II - M07016 AFNOR complete



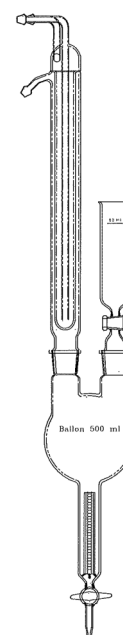
AFNOR M07032 - IP 188

Reference	Description
12622	Graduated cylinder (100ml) with stopper - RIN 24/29
19338	Flask (20 ml) - RIN 24/29
19339	Distillation column with cap
19340	Condenser RIN 14/23



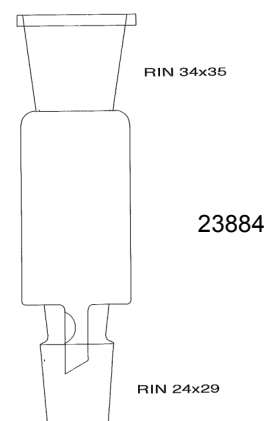
AFNOR M07039 - EN 13 - EN 41 - IP 96

Reference	Description
12923	Protection tube
19312	Complete glassware without RIN
19313	Complete glassware with RIN 29
513312	Boiling flask (500 ml) with resistance and RIN
513314	Hopkins condenser with RIN
513315	Separatory funnel with RIN



AFNOR T60115 - IP 143 - DIN 51595

Reference	Description
19364	Condenser RIN 34/35
21918	Erlenmeyer flask (500 ml) RIN29/32
21919	Reflux extractor RIN29/34
23883	Erlenmeyer flask (500 ml) without stopper RIN24
23884	Reflux extractor RIN 34/35 F - RIN 24/29 M

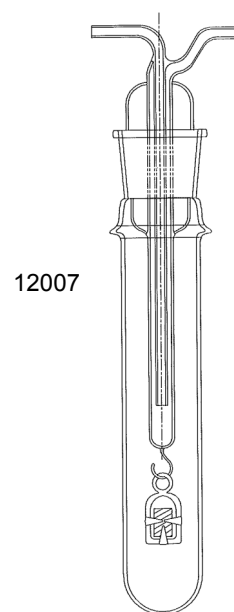


IP 70

Reference	Description
521341	Redwood flask (50 ml)

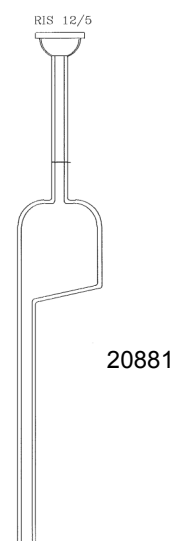
IP 227

Reference	Description
12007	Complete condenser kit (amber glass)
12008	Cradle (amber glass)
12376	Test tube (amber glass)
12377	Cold-finger condenser (amber glass)
20523	Complete condenser kit
20524	Test tube
20525	Cold-finger condenser



IP 309 - NF EN 116 - AFNOR M07042

Reference	Description
17881	RIS Automatic pipette
17885	CFPP test tube
20881	RIS Pipette for manual apparatus
20942	RIS male tip
21916	CFPP pipette
23231	Pipette for manual apparatus without RIS



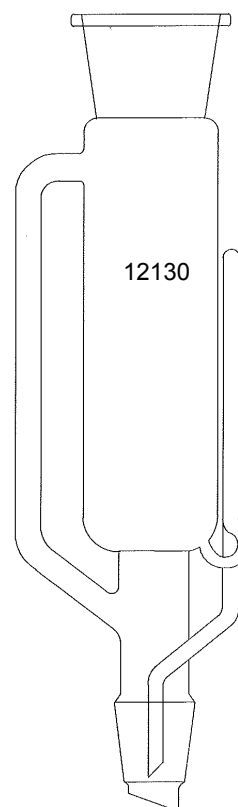
ORSAT DEVICE

Smoke analyzer used to dose the component of a gas by absorption into the bells to liquid reagents (carbon dioxide, unsaturated hydrocarbons, oxygen) and determination of hydrogen by combustion of copper oxide, methane and ethane combustion on spiral platinum.

Reference	Description
13907	3-position device for dosing CO, CO ₂ , O ₂ , delivered in hard case with carrying handle. Supplied complet (without reagent)
13917	Absorber
14155	Rubber gas bulb
13918	Jacket
13919	Burette 0-30% at 1/5% and 50-90% at 1%
13920	Bottle
13921	Drying tube
13950	3-position ramp with tap
13953	Rubber stopper for top cover (pack of 2)
13954	Rubber stopper for bottom cover (pack of 2)

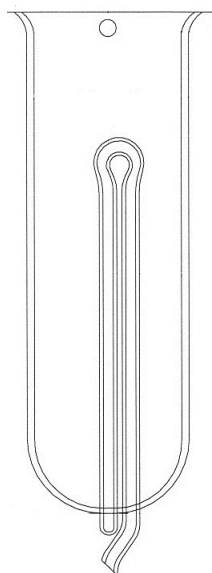
SOXHLET EXTRACTOR

Reference	Description
12128	Complete extractor, 60 ml capacity
12133	Complete extractor, 125 ml capacity
12138	Complete extractor, 200 ml capacity
12143	Complete extractor, 500 ml capacity
12148	Complete extractor, 1000 ml capacity
12129	Spare flask (100 ml) for 12128
12849	Spare flask (250 ml) for 12133
12853	Spare flask (500 ml) for 12138
12856	Spare flask (1000 ml) for 12143
12149	Spare flask (2000 ml) for 12148
12130	Spare extractor tube (60 ml)
12135	Spare extractor tube (125 ml)
12140	Spare extractor tube (200 ml)
12145	Spare extractor tube (500 ml)
12150	Spare extractor tube (1000 ml)
30211	Condenser 4 balls RIN 24/29
12142	Condenser 4 balls RIN 29/32
12147	Condenser 6 balls RIN 29/32
12152	Condenser 8 balls RIN 29/32

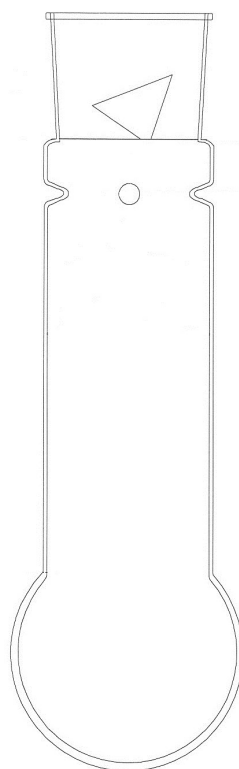


KUMAGAWA EXTRACTOR (borosilicate glass)

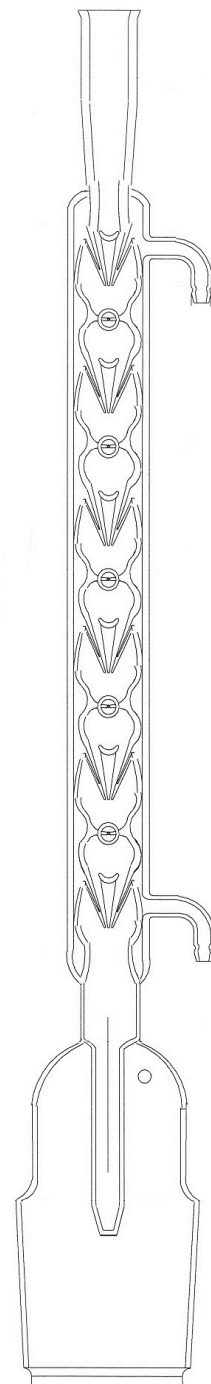
Reference	Description
12280*	Complete extractor, 125 ml capacity
12284*	Complete extractor, 250 ml capacity
12288*	Complete extractor, 500 ml capacity
12281	Spare flask (250 ml) for 12280
12285	Spare flask (500 ml) for 12284
12289	Spare flask (1000 ml) for 12288
12282	Spare extractor tube (125 ml)
12286	Spare extractor tube (250 ml)
12290	Spare extractor tube (500 ml)
12283	Spare condenser RIN male 50/42
12287	Spare condenser RIN male 60/46
12291	Spare condenser RIN male 85/70



12286



12288



12288

* The capacity of an extractor is the one of the extractor tube and not the capacity of the flask.

VISCOMETER TUBES

INTRODUCTION

The following pages present the various types of viscometric tubes we have been manufacturing for years in our factories and calibration laboratory.

MANUFACTURE

Normalab's viscometric tubes are made out of low-expanding Duran 50 glass. The tubes are made with high accuracy capillaries (+/-0.001 mm). Scores and figures are marked using an indelible process. The usual principle of engraving has been abandoned, which makes the viscometers tubes less fragile (less breakage in the lines). Each tube has its serial number and is supplied in an individual packaging. The standard capillary viscometers are delivered without any engraved constant. This may be engraved on customer's special request against additional cost.

CALIBRATION

3 options are available for most of the models:

a) Without certificate

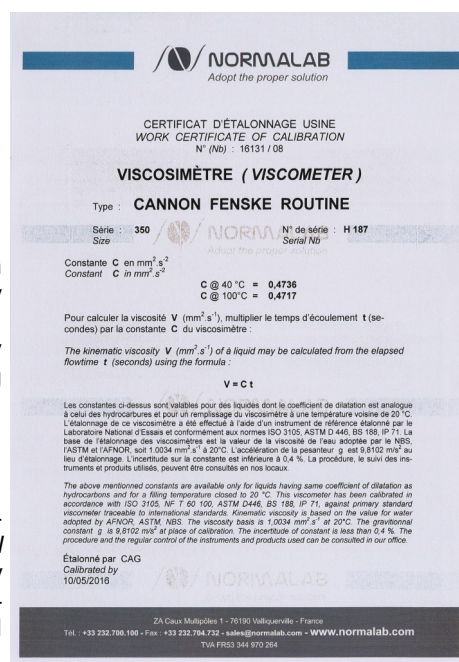
b) « Factory » certificate

The constant is obtained by using only one pure mineral oil grade of which viscosity has been previously determined with viscometer tube calibrated by « Laboratoire National d'Essais » or using a Cannon calibrated tube.

Any type of viscometer may be manufactured with the constant required by customers and providing 10% accuracy or better if requested at the ordering time.

c) Calibration certificate

Normalab viscometers are calibrated in our laboratory using reference viscometers calibrated by the French « Laboratoire National d'Essais » (*National Testing Laboratory*). Those viscometers are checked at regular intervals by means of viscosity oil standards. Normalab has been assessed and registered as meeting the requirements of ISO 9001 for laboratory and associated services of repair, calibration and verification of laboratories devices.



INSTRUMENTS

MANUAL VISCOSITY BATH

Standards : ASTM D 445 - D446 - ISO 3104 & 3105 - IP 71

REF 23207 : NVB CLASSIC

Viscosity bath, conform ASTM D445, with a temperature range from ambient to 230°C. Temperature stability is ±0.01 K. The bath volume is 40 liters and has a opening of 260 x 240 mm. There are 7 openings for holding viscometers. A cooling coil to work below ambient temperature is integrated. A bath drain is included.



AUTOMATIC VISCOSIMETER WASHER FOR TUBES ASTM D 445

Standards : ASTM D 445 - ISO 3104 - IP 71

REF 18450 : VTW CLASSIC

Viscometer washer supplied with 6 nozzle stoppers. This apparatus allows external and internal washing of all current types of viscometer tubes. Viscometer tubes are suspended in solvent vapor at its boiling temperature.

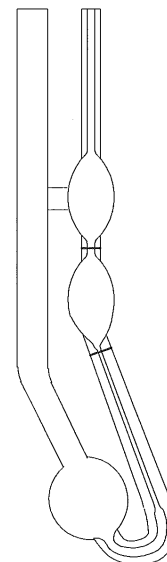


CANNON-FENSKE ROUTINE VISCOMETERS FOR TRANSPARENT LIQUIDS

ASTM D 445 - IP 71 - ISO 3104 - 3105

- A: without certificate
- B: with factory certificate
- C: with calibration certificate

Size	Approx. constant	Viscosity (cSt)	Reference A	Reference B	Reference C
25	0.002	0.5 to 2	14046	16874	14002
50	0.004	0.8 to 4	14047	16875	14003
75	0.008	1.6 to 8	14048	16876	14004
100	0.015	3 to 15	14049	16877	14005
150	0.035	7 to 35	14050	16878	14006
200	0.1	20 to 100	14051	16879	14007
300	0.25	50 to 250	14052	16880	14008
350	0.5	100 to 500	14053	16881	14009
400	1.2	240 to 1200	14054	16882	14010
450	2.5	500 to 2500	14055	16883	14011
500	8	1600 to 8000	14056	16884	14012
600	20	4000 to 20000	14057	16885	14013
650	45	10000 to 40000	14058	16886	14014
700	100	20000 to 80000	14059	16887	14015

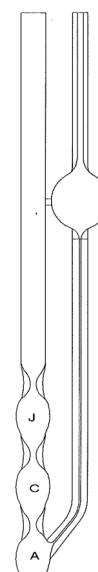


CANNON-FENSKE REVERSE FLOW VISCOMETERS FOR OPAQUE LIQUIDS

ASTM D 445 - D 2170 - IP 71 - ISO 3104 - 3105

- A: without certificate
- B: with factory certificate
- C: with calibration certificate

Size	Approx. constant	Viscosity (cSt)	Reference A	Reference B	Reference C
25	0.002	0.4 to 2	12181	16979	14016
50	0.004	0.8 to 4	12182	16980	14017
75	0.008	1,6 to 8	12183	16981	14018
100	0.015	3 to 15	12184	16982	14019
150	0.035	7 to 35	12185	16983	14020
200	0.1	20 to 100	12186	16984	14021
300	0.25	50 to 200	12187	16985	14022
350	0.5	100 to 500	12188	16986	14023
400	1.2	240 to 1200	12189	16987	14024
450	2.5	500 to 2500	12190	16988	14025
500	8	1600 to 8000	12191	16989	14026
600	20	4000 to 20000	12192	16990	14027
650	45	10000 to 40000	12193	16991	14028
700	100	20000 to 80000	12194	16992	14029

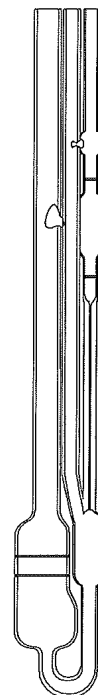


UBBELOHDE VISCOMETERS FOR TRANSPARENT LIQUIDS

ASTM D 445 - IP 71 - ISO 3104 - 3105

- A: without certificate
- B: with factory certificate
- C: with calibration certificate

Size	Approx. constant	Viscosity (cSt)	Reference A	Reference B	Reference C
0	0.001	0.3 to 1	13975	16700	14030
0C	0.003	0.6 to 3	13976	16701	14031
0B	0.005	1 to 5	13977	16702	14032
0A	0.007/8	1.5 to 7	13978	16703	14033
1	0.01	2 to 10	13979	16704	14034
1C	0.03	6 to 30	13980	16705	14035
1B	0.05	10 to 50	13981	16706	14036
2	0.1	20 to 100	13982	16707	14037
2C	0.3	60 to 300	13983	16708	14038
2B	0.5	100 to 500	13984	16709	14039
2A	0.7/0.8	150 to 750	13985	16710	14040
3	1	200 to 1000	13986	16711	14041
3C	3	600 to 3000	13987	16712	14042
3B	5	1000 to 5000	13988	16713	14043
4	10	2000 to 10000	13989	16714	14044
4C	30	6000 to 30000	13990	16715	14045
4B	50	10000 to 50000	13991	16716	13993
5	100	20000 to 100000	13992	16717	13994



CANNON-UBBELOHDE VISCOMETER FOR AVS

- with screwed end - for transparent liquids -

ASTM D 445 - IP 71 - ISO 3104 - 3105

- A: without certificate
- B: with factory certificate

Size	Approx. constant	Reference A	Reference B
0C	0.003	22874	22883
0A	0.005	22873	22882
1	0.01	22875	22884
1C	0.03	22876	22885
2	0.1	22877	22886
2C	0.3	22878	22887
3	1	22879	22888
3C	3	22880	22889
4	10	22881	22890

HOUILLON VISCOMETERS FOR TRANSPARENT LIQUIDS

B: with factory certificate
C: with calibration certificate

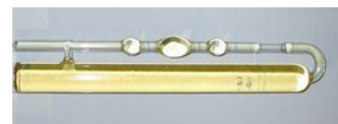


Size	Approx. constant	Viscosity (cSt)	Reference B	Reference C
50	0.016	0.8 to 3.2	13923	13932
75	0.032	1.6 to 6.4	13924	13933
100	0.06	3 to 12	13925	13934
150	0.14	7 to 28	13926	13935
200	0.4	20 to 80	13927	13936
300	1	50 to 200	13928	13937
350	2	100 to 400	13929	13938
400	4.8	240 to 960	13930	13939
450	10	500 to 2000	13931	13940

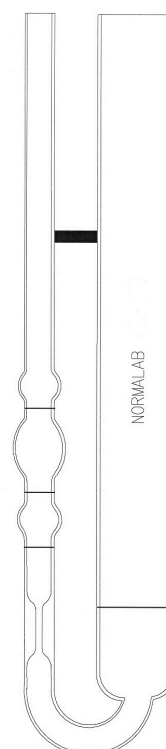


**VISCOMETER TUBES CANNON-MANNING VACUUM
ASTM D 2171**

A: without certificate
C: with calibration certificate



Size	Approx. Cst Bulb B	Approx. Cst Bulb C	Viscosity (P)	Reference A	Reference C
4	0,002	0,0006	0.036 to 0.8	18870	18892
5	0,006	0,002	0.12 to 2.4	18871	18893
6	0,02	0,006	0.36 to 8	18872	18894
7	0,06	0,02	1.2 to 24	18873	18895
8	0,2	0,06	3.6 to 80	18874	18896
9	0,6	0,2	12 to 240	18875	18897
10	2	0,6	36 to 800	18876	18898
11	6	2	120 to 2400	18877	18899
12	20	6	360 to 8000	18878	18900
13	60	20	1200 to 24000	18879	18901
14	200	60	3600 to 80000	18880	18902



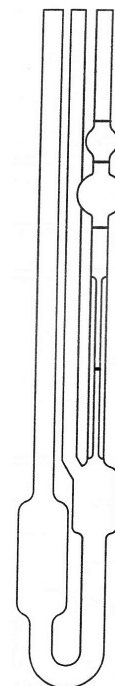
35 / IP SL VISCOMETERS FOR TRANSPARENT LIQUIDS

ASTM D 445 - IP 71 - ISO 3104 - 3105

- A: without certificate
- B: with factory certificate
- C: with calibration certificate



Size	Approx. constant	Viscosity (cSt)	Reference A	Reference B	Reference C
1	0.01	3.5 to 10	19265	19274	19283
1A	0.03	6 to 30	19266	19275	19284
2	0.1	20 to 100	19267	19276	19285
2A	0.3	60 to 300	19268	19277	19286
3	1	200 to 1000	19269	19278	19287
3A	3	600 to 3000	19270	19279	19288
4	10	2000 to 10000	19271	19280	19289
4A	30	6000 to 30000	19272	19281	19290
5	100	20000 to 100000	19273	19282	19291



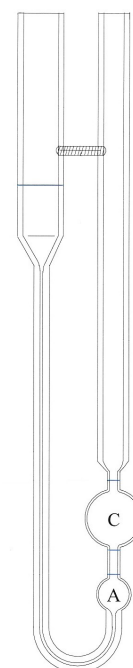
35 / IP URF VISCOMETERS FOR OPAQUE LIQUIDS

ASTM D 445 - D 2170 - IP 71 - ISO 3104 - 3105

- A: without certificate
- B: with factory certificate
- C: with calibration certificate



Size	Approx. constant	Viscosity (cSt)	Reference A	Reference B	Reference C
1	0.003	0.6 to 3	18648	18659	18670
2	0.01	2 to 10	18649	18660	18671
3	0.03	6 to 30	18650	18661	18672
4	0.10	20 to 100	18651	18662	18673
5	0.3	60 to 300	18652	18663	18674
6	1	200 to 1000	18653	18664	18675
7	3	600 to 3000	18654	18665	18676
8	10	2000 to 10000	18655	18666	18677
9	30	6000 to 30000	18656	18667	18678
10	100	20000 to 100000	18657	18668	18679
11	300	60000 to 300000	18658	18669	18680



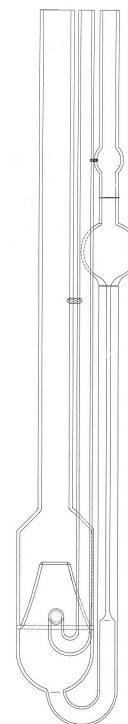
SIL VISCOMETERS FOR TRANSPARENT LIQUIDS

ASTM D 445 - IP 71 - ISO 3104 - 3105

A: without certificate
C: with calibration certificate



Size	Approx. constant	Viscosity (cSt)	Reference A	Reference C
0C	0.003	0.6 to 3	19623	19631
1	0.01	2 to 10	19624	19632
1C	0.03	6 to 30	19625	19497
2	0.1	20 to 100	19626	19498
2C	0.3	60 to 300	19627	19499
3	1	200 to 1000	19628	19500
3C	3	600 to 3000	19628	19501
4	10	2000 to 10000	19630	19502



CANNON-UBBELOHDE VISCOMETERS FOR AVS - FOR TRANSPARENT LIQUIDS

ASTM D 445 - IP 71 - ISO 3104 - 3105

A: without certificate
B: with factory certificate

Size	Approx. constant	Reference A	Reference B
0C	0.003	11179	15253
0A	0.005	11180	15255
1	0.01	11181	15256
1C	0.03	11182	15257
2	0.1	11183	15259
2C	0.3	11184	15260
3	1	11185	15263
3C	3	11186	15264
4	10	11187	15266

BAUME VIGNERON VISCOMETERS FOR TRANSPARENT LIQUIDS

A: without certificate
C: with calibration certificate

Viscosity (cSt)	Reference	
	A	C
0.63	14719	14740
1	14720	14741
1.6	14721	14742
2.5	14722	14743
4	14723	14744
6.3	14724	14745
10	14725	14746
16	14726	14747
25	14727	14748
40	14728	14749
63	14729	14750
100	14730	14751
160	14731	14752
250	14732	14753
400	14733	14754
630	14734	14755
1000	14735	14756
1600	14736	14757
2500	14737	14758
4000	14738	14759
6300	14739	14760



MAIN PRODUCTS



NDI 450

ASTM D 86, ISO 405, IP 123, DIN 51751

Automated atmospheric Distillation unit



NPM 450

ASTM D 93, ISO 2719, IP 34, DIN 1758

Automatic Pensky Martens Flash Point tester



NPN TECH

ASTM D 5, D 217, D 937, D 1321, D 1403, IP 49, ISO 3997, DIN 52010

Automatic Penetrometer



NTE 450

ASTM D 97 & 2500, ISO 3015 & 3016, IP 15 & 219

Automated Cloud and Pour Point instrument



NTL 450

ASTM D 6371, IP 309

Automated Cold Filter Plugging Point instrument



NABLEND

ASTM D 613 & 2699 & 2700, ISO 5163 & 5164, IP 41 & 236 & 237, DIN 51756

Automatic Blending Unit
For octane and cetane reference fuel

PETROLEUM TESTING INSTRUMENTS CATALOG



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