



24000 SUBLIMATOR, VACUUM

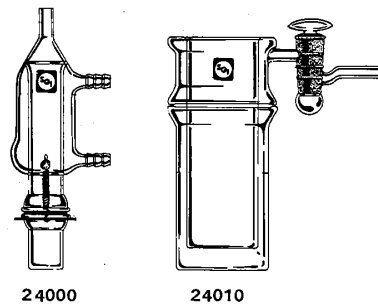
"O" ring connector enables the two glass parts to be gently separated for maximum product recovery. When inverted, the vacuum connection at the condenser top serves as a convenient funnel for product removal. J. Chem. Ed. 39, 5, 261 (May 1962).

Code	Flask Dimensions	
	I.D. mm	Length mm
A	20	50
B	30	75

24010 SUBLIMATOR, VACUUM

Large capacity sublimator with 100 mm. O.D. flask and 80 mm. O.D. condensing surface; mean free path approximately 20 mm. Sealed with Viton "O" Ring. Sublimate collects on ground and polished surface which is flat and parallel to inside bottom of flask. Vacuum stopcock 8 mm bore, controls vacuum.

Part	Item
A	Condenser
B	Flask
C	"O" Ring, Viton
D	Complete



24011 SUBLIMATOR, VACUUM, $\text{\textcircled{S}}$ JOINT

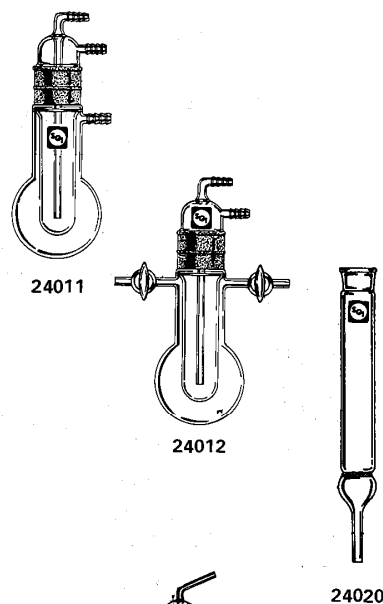
Extra large capacity sublimator with 500 ml. body. Sublimate collects on the surface of the condenser. Joint is $\text{\textcircled{S}}$ 71/60

Part	Description
A	Condenser, 71/60
B	Flask, 71/60, 500 ml.
C	Complete

24012 SUBLIMATOR, VACUUM, $\text{\textcircled{S}}$ JOINT

Similar to 24011, except with $\text{\textcircled{S}}$ 4 mm stopcocks on vacuum and inlet side of 500 ml. Flask. Joint is $\text{\textcircled{S}}$ 71/60.

Part	Description
A	Condenser,
B	Flask, $\text{\textcircled{S}}$ 71/60, 500 ml.
C	Complete



24020 SULFUR ABSORPTION TUBE

Used for the determination of sulfur in gasoline. Top tooled for a No. 7 rubber stopper; approximate capacity, 130 ml.; disc diameter, 30 mm. Ref: Industrial & Engineering Chemistry, Analytical Edition, 2: 104 (1930).

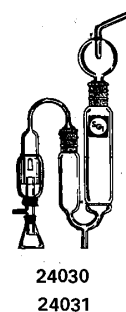
24021 SULFUR, CONDENSING UNIT

For use with source emission samplers. 200 ml. capacity receiving bottle. $\text{\textcircled{S}}$ 28/12 spherical joints. Condenser is 200 mm. long. Designed to fit into impinger baths on source emission samplers.

24030 SULFUR DETERMINATION APPARATUS

For the determination of sulfur in petroleum products by the Lamp-Gravimetric Method (ASTM D 90-55T) or by the CO₂ - O₂ Lamp Method (ASTM D 1266-55T). Burner and flask joints are $\text{\textcircled{S}}$ 14/10; spray trap and absorber joints are $\text{\textcircled{S}}$ 24/40.

Part	A	B	C	D	E
Item	Spray Trap	Absorber	Chimney	Burner	Flask

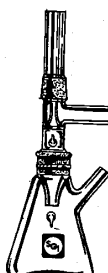


24031 SULFUR DETERMINATION APPARATUS, QUARTZ

Identical to 24030 except made of Quartz glass.



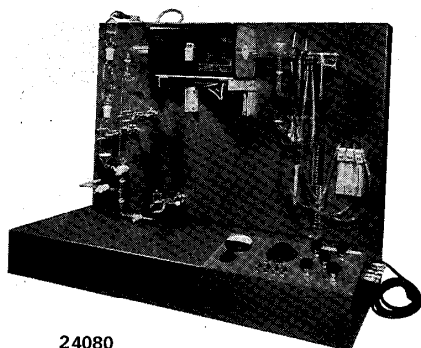
24040
24050



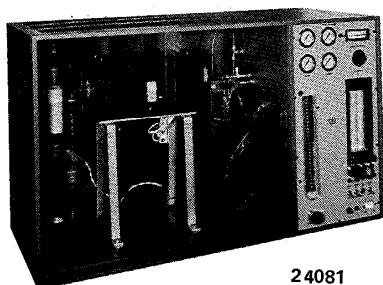
24060
24070



24071



24080



24081

24040 SULFUR APPARATUS BURNER

Used for burning liquified petroleum gases in the 24030 Sulfur Determination Apparatus. Burner connects to chimney through $\frac{1}{4}$ 14/10 joints. Ref: ASTM D 1266-55T.

24050 SULPHUR APPARATUS BURNER

Same as 24040, except made of Quartz glass.

24060 SULFUR APPARATUS BURNER

Used for burning aromatic samples in the 24030 Sulfur Determination Apparatus. Burner connects to chimney and flask through $\frac{1}{4}$ 14/10 joints. Ref: ASTM D 1266-55T.

Part	Item
A	Burner
B	Flask
C	Complete

24070 SULFUR APPARATUS BURNER

Same as 24060, except made of Quartz glass.

Part	Item
A	Burner
B	Flask
C	Complete

24071 SULFUR APPARATUS, BURNER

Wick Type Burner for sulfur determinations, furnished complete with wick, but without stand.

24080 TRACE SULFUR APPARATUS*

For the determination of trace quantities of sulfur in petroleum distillates. For more information refer to ANALYTICAL CHEMISTRY, Vol. 34, No. 8, July, 1962.; A.S.T.M. D2747; A.S.T.M. D2784; A.S.T.M. D2785.

Part	Item	Part	Item
A	Furnace Tube	H	Connector
B	Sample Reservoir	I	Absorbent Inlet
C	Manometer	J	Evaporator
D	Moisture Trap	K	Baffle Moisture Head
E	Vacuum Line	L	Vacuum Manifold
F	Condenser	M	Metal Burner
G	Absorber	N	Complete

24081 TRACE SULFUR APPARATUS, IMPROVED *

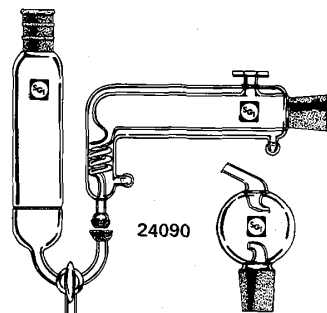
Improved instrumentation and more compact designed glassware. The instrument is encased in a heavy gauge aluminum housing with baked on enamel. Used in the determination of trace quantities of sulfur, chlorides and fluorides in light liquid hydrocarbons and L.P.G. s. Furnace temperature is automatically controlled by a controlling Pyrometer. All necessary valves and connections are furnished on the instrument. Operation is similar to that of 24080.

Part	Description of Spare Parts
A	Furnace Tube
B	Sample Reservoir
C	Manometer
D	Moisture Trap
E	Condenser
F	Absorber
G	Absorbant Inlet
H	Water Trap
I	Metal Burner
J	Complete

24090 APPARATUS, WICKBOLD-ASTM PROPOSED RAPID COMBUSTION METHODS

For the determination of sulfur in liquid and gaseous hydrocarbon materials. The combustion chamber is made entirely of Quartz glass with a 19/38 S outer joint for 24100 Burner. The absorber is made of borosilicate glass and comes with a 18/9 S socket joint. The combustion chamber has been altered by the addition of a pressure relief port to prevent possible explosions by pressure buildup. Top joint on the absorber is 24/40 S outer. Please specify Ref: ASTM D-2384.

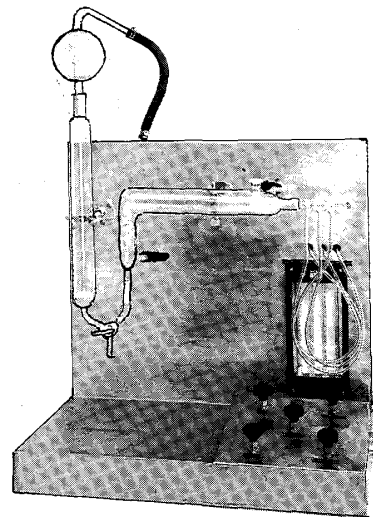
Part	Item	S Joint	S Joint
A	Combustion Chamber	14/35	18/9
B	Absorber	14/35	18/9
C	Water Trap	24/40	
D	Complete		



24090

24091 SULFUR APPARATUS, WICKBOLD *

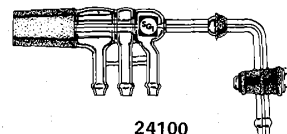
ASTM D-2384 Method of Determination of Chlorides in Butane-Butene mixtures. Complete instrument includes 24090 Glassware, Flowmeters, Valves, Connections, Quartz Burner, 24100, and Stainless Steel Mounting cabinet.



24091

24100 SULFUR APPARATUS, WICKBOLD, BURNER, QUARTZ

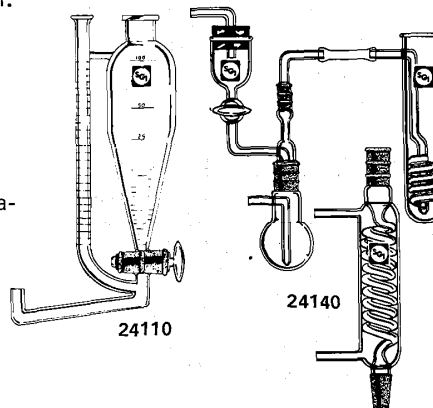
For use in sulfur determinations using Wickbold Design Apparatus. The joint is 19/38 S inner.



24100

24110 RESERVOIR, LIQUID SAMPLE, 100 ml.

For use with the Wickbold burner to give gravity flow as well as aspirator flow of sample through the burner for faster burning action. A 2 ml. pipet gives the operator the proper flow rate desired.



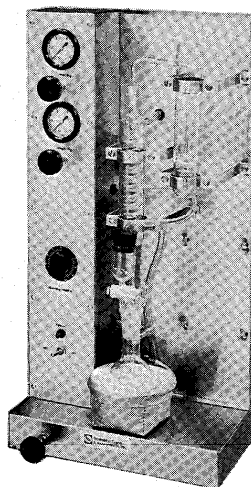
24110

24140

24140 SULFUR APPARATUS, U.O.P.

Designed for the Rayney-Nickel Reduction method for sulfur determination in Petroleum distillates. Reference: U.O.P. Method 357.

Part	Description
A	Condenser, S 7/25, 250 mm. length
B	Head, S 24/40 and S 7/25 Joints, 1 mm. stopcock
C	Flask, 100 ml. S 24/40 Joint
D	Connector, S 7/25 Joint
E	Absorber, 205 mm. Depth
F	Complete



24141

24141 SULFUR DETERMINATOR, RAYNICK™*

This instrument is used for the determination of low concentrations of sulfur, ranging from 0.1 to 200 ppm. The analysis may be applied to non-olefinic materials, such as straight run naphthas, hydrogen treated stock, reformates and aromatic hydrocarbons. *It cannot be used on stocks containing more than 2% olefins.*

Another limitation is that oxidized sulfur forms, such as sulfonic acids, are not determined quantitatively; therefore, it should be used with discretion on stocks which have been treated with sulfuric acid.