

DIAGNOSTIC/PREPARATION INSTRUMENTS

- SUCTION TUBES
- TROCARS
- CATHETER FORCEPS
- LARYNGOSCOPES
- CALIPERS
- DISSECTING KITS





PERCUSSION HAMMERS

Perkussionshämmer

Martillos de percusion

Marteaux-percuteurs

Martelli percussori



BUCK
301-005-185
18.5 cm, 7 1/4"



**BUCK
HAMMER**
301-008-180
18 cm, 7"



NEURO-DUOFLEX
301-011-220
22 cm, 8 3/4"



DEJERINE
301-013-200
20 cm, 8"



DEJERINE
301-015-200
20 cm, 8"



TROEMNER
301-017-245 145 g
301-020-245 175 g
301-022-245 235 g
24.5 cm, 9 3/4"
spare rubber



TROEMNER-SIMPLEX
301-024-210
21 cm, 8 1/4"



TAYLOR
301-026-180 18 cm, 7"
301-029-200 20 cm, 8"



TAYLOR
301-031-180
18 cm, 7"



PERCUSSION HAMMERS

Perkussionshämmer

Martillos de percusion

Marteaux-percuteurs

Martelli percussori



BERLINER
301-033-200
20.0 cm, 8"



TRAUBE
301-035-160
16 cm, 6 1/4"



WARTENBERG
301-038-190
19 cm, 7 1/2"



BABINSKY
301-041-220
22 cm, 8 3/4"



BABINSKY
301-043-220
22 cm, 8 3/4"



RABINER
301-045-255
25.5 cm, 10"
with needle
and brush

DYNAMIC



STETHOSCOPES

Stethoskope

Estetoscopios

Stéthoscopes

Stetoscopi



PINARD WOODEN
301-047-180
18 cm, 7"



PINARD ALUMINIUM
301-050-150
15 cm, 6"



WEBER
301-052-090
9.0 cm, 3 1/2"
Aesthesiometer

DYNAMIC



DUPLEX
301-055-000
super lightweight

Ø 47 mm



DUPLEX-BABY
301-058-000
super lightweight

Ø 37 mm



ANAESTOPHON
301-061-000
super lightweight

Ø 47 mm



CATHETER INTRODUCING FORCEPS

Kathetereinführzangen

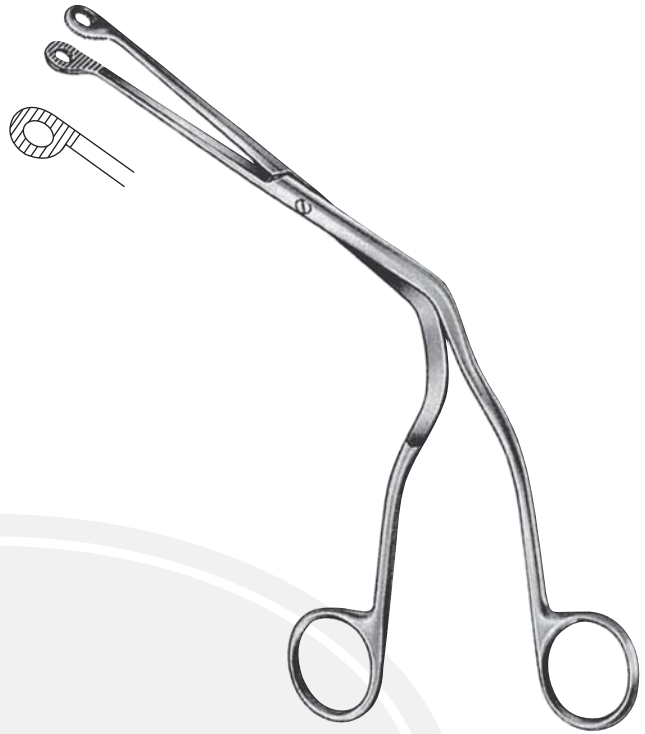
Pinces pour introduire les sondes

Pinzas para catéteres

pinze per introdurre le sonde



MAGILL
301-063-170
17 cm, 6 3/4"



MAGILL
301-066-170
20 cm, 8"



MAGILL
301-069-170
25 cm, 10"



GUEDEL-NEGUS

301-071-00

Battery handle
(without batteries)
Guedel-Negus

301-072-01

Blade, fig 01

301-073-02

ditto, fig 02

301-074-03

ditto, fig 03

301-075-04

ditto, fig 04

case for 4 straight blades

MCINTOSH

301-078-00

Fiber Optic Laryngoscope set
with 4 blades
(fig. 01 to 04) in wooden/ rexin box.

301-079-01 Blade fig 01

301-080-02 Blade fig 02

301-081-03 Blade fig 03

301-082-04 Blade fig 04

301-083-00 Handle only
(without batteries)



Fig. 01
301-086-01



Fig. 02
301-087-02



Fig. 03
301-088-03



Fig. 04
301-089-04



BATTERY HANDLE

301-090-250

25 cm, 10", without battery

Use with battery

(301-086-01 – 301-089-04

301-091-01 – 301-094-04)



Fig. 01
301-091-01



Fig. 02
301-092-02



Fig. 03
301-093-03



Fig. 04
301-094-04



DIAGNOSTIC SETS WITH STANDARD ILLUMINATION

Kaltlicht-Laryngoskope und Zubehör

Laryngoscopes de lumière froide et accessoires

Laringoscopios de luz fría y Accessories

Laringoscopi di luce fredda ed accessori



OTOSCOPE SET (color available)
301-097-00



OTOSCOPE SET
301-099-00



MINI OTOSCOPE SET
301-101-000



**OTOSCOPE /
OPHTHALMOSCOPE SET**
301-103-000



DIAGNOSTIC SET
301-105-000



DIAGNOSTIC SETS ILLUMINATION LARYNGOSCOPE & ACCESSORIES

Kaltlicht-Laryngoskope und Zubehör

Laryngoscopes de lumière froide et accessoires

Laringoscopios de luz fría y Accessories

Laringoscopi di luce fredda ed accessori



OTOSCOPE SET
301-108-000



DIAGNOSTIC SET
301-110-000



GUEDEL-NEGUS / MILLER

301-112-000
with three laryngoscope blades No. 1 to 3 complete, in case.

301-113-000
With four laryngoscope blades No. 1 to 4 complete, in case.



301-115-001
for children
working length
70 mm



301-116-002
for adolescents
working length
90 mm



301-117-003
for women
working length
110 mm



301-118-004
for men
working length
175 mm



LARYNGOSCOPE & ACCESSORIES

Laryngoskope und Zubehör

Laringoscopios y Accesorios

Laryngoscopes et accessories

Laringoscopi ed accessori



MCINTOSH

301-120-000
with three laryngoscope blades No. 1 to 3 complete, in case. With battery

301-121-000
With four laryngoscope blades No. 2 to 5 complete, in case.



FOREGGER

301-131-000
with three laryngoscope blades No. 2 to 4 complete, in case.



301-123-001
for babies
working length
55 mm



301-124-002
for children
working length
75 mm



301-125-003
for adolescents
working length
90 mm



301-126-004
for women
working length
110 mm



301-127-005
for men
working length
135 mm

DYNAMIC



301-133-001
for children
working length
70 mm



301-134-002
for adolescents
working length
90 mm



301-135-003
for women
working length
110 mm



301-136-004
for men
working length
175 mm



LARYNGOSCOPE CONVENTIONAL & FIBEROPTIC SET(DOUBLE SET)

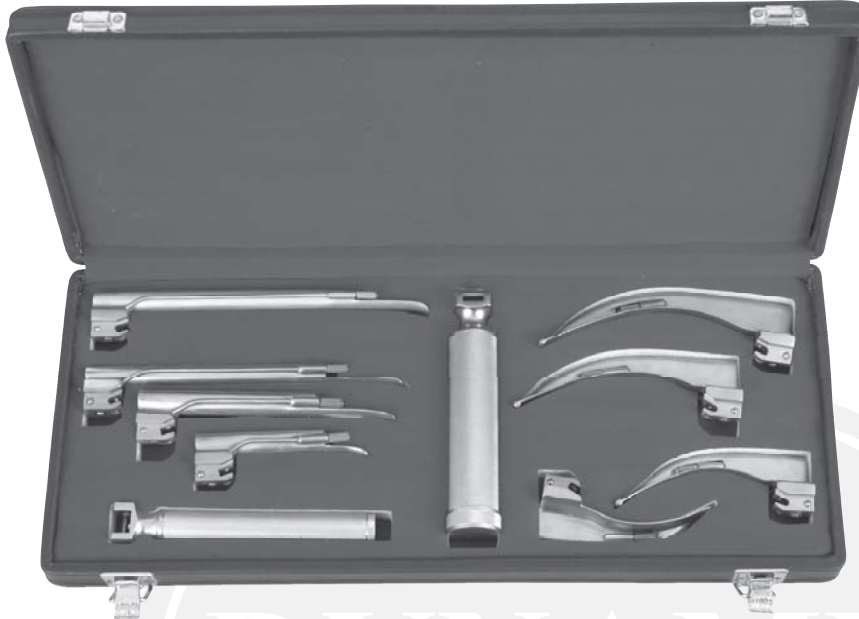
Kaltlicht-Laryngoskope und Zubehör

Laryngoscopes de lumière froide et accessoires

Laringoscopios de luz fría y Accessories

Laringoscopi di luce fredda ed accessori

CONVENTIONAL SET



CONVENTIONAL SET
301-139-000
MAC + MILLER COMBO
Double Set of 10 Pcs.
4 Miller Blades
4 Mac Blades
1 Handle Small
1 Handle Medium

FIBEROPTIC SET



MAC + MILLER COMBO SET
301-141-000
Double Set of 10 Pcs.
4 Miller Blades
4 Mac Blades
1 Handle Small
1 Handle Medium



FIBEROPTIC & DISPOSABLE LARYNGOSCOPE SET

Kaltlicht-Laryngoskope und Zubehör

Laryngoscopes de lumière froide et accessoires

Laringoscopios de luz fría y Accessories

Laringoscopi di luce fredda ed accessori

FIBEROPTIC SETS



MAC SET
301-144-000
Set of 5 pcs.



MILLER SET
301-146-000
Set of 5 pcs.

DISPOSABLE LARYNGOSCOPE SETS



MAC DISPOSABLE SET
301-148-000
Set of 4 Blade + 1 Handle



MILLER DISPOSABLE SET
301-150-000
Set of 4 Blade + 1 Handle



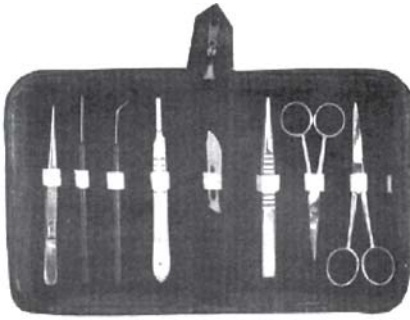
DISSECTING KITS

Diagnostik-bestecke

Diagnostic Setts

Estuches de diagnostico

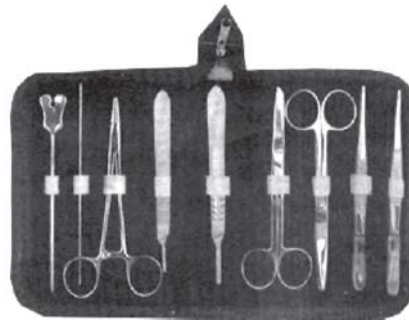
Combinazioni per diagnostica



301-152-001

Set of 9 Pcs.

- Dissecting Forceps 11.5cm Sharp Point.
- Teasing needle Sharp STR.
- Teasing Needle Sharp Angular.
- B.P Handle No.4.
- Blade No. 22.
- Thumb Forcep T.O.E 13cm.
- Dissecting Scissor STR 11.5cm.
- Dissecting Scissor STR 13cm.
- Zipper Case Inside Red Velvet.



301-154-002

Set of 10 Pcs.

- Grooved Director with Tongue Tie 14cm.
- Probe Double 14cm.
- Mayo Hegar Needle Holder 14cm.
- B.P Handle No.3
- B.P Handle No.4
- Dressing Scissor 14cm S/B STR.
- Dressing Scissor 14cm S/B CVD.
- Dressing Scissor 1x2 teeth 14cm.
- Dressing Forcep Serrated 14cm.
- Zipper Case Inside Red Velvet.



301-156-003

Set of 10 Pcs.

- Probe Double 13cm.
- 2PCS. Scalpel S.S.
- Grooved Director With Tongue Tie 14cm
- Mayo Hegar Needle Holder 14cm.
- Dissecting Forceps 14cm 1x2 Teeth.
- Dressing Forceps 14cm Serrated.
- Dressing Scissor 14cm S/B STR.
- Dressing Scissor 14cm S/B CVD.
- Zipper Case Inside Red Velvet.



301-158-004

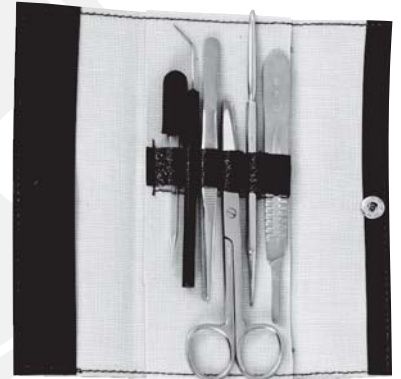
Set of 10 Pcs.

- Blow Pipe.
- 3PCS Scalpel.
- Dissecting Forceps 14cm.
- Grooved Director With Tongue Tie 14cm
- Triple Chain Hook.
- Dressing Scissor Probe Pointed 14cm.
- Probe Double 14 cm.
- Zipper Case Inside Red Velvet.



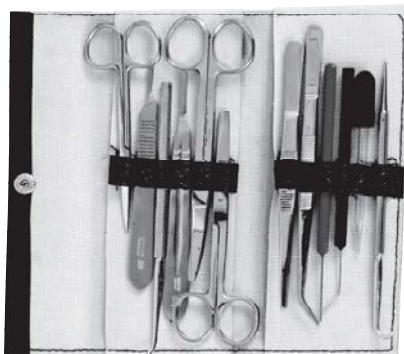
DISSECTING SET

301-161-005 Containing 9 Instruments



301-163-006

Set of 6 pcs.



301-165-007

Set of 12 pcs.



DISSECTING KET

301-167-008

Set of 2 pcs.



CALIPERS, DYNAMOMETERS, FLEXOMETER

Schieblehren, Dynamometer, Winkelmesser

Pieds à Coulisse, Dynamomètres, Goniomètres

Calipers, Dinamómetros, Goniómetro

Calibro, Dinamometro, Goniometro



GRADUATED TAPE MEASURER

301-170-001

2 m long (1.5 m) graduated in inch & cm markings



GRADUATED METAL RULER

301-172-150

15 cm, 6" cm & mm markings



JAMESON

301-174-001



TOWNLEY

301-176-115
11.5 cm, 4 1/4"



MÖLTGEN

301-179-001



CARROLL

301-182-145
14.5 cm, 5 3/4"



CALIPER

301-185-150
15.0 cm, 6"



VERNIER

301-188-120
12 cm, 5"



CASTROVIEJO
301-190-080
8 cm, 3"
Measuring range
15 mm



CASTROVIEJO
301-193-080
8 cm, 3"
Measuring range
20 mm



CASTROVIEJO
301-195-080
8 cm, 3"
Measuring range
20 mm



CASTROVIEJO-EPKER
301-197-090
9 cm, 3 1/2"
Measuring range
40 mm



CASTROVIEJO-EPKER
301-200-180
18 cm, 7"
Measuring range
40 mm, straight



CASTROVIEJO-EPKER
301-202-180
18 cm, 7"
Measuring range
40 mm, curved



SUCTION TUBES

Sauger, Saugrohre

Tubos de aspiración

Tubos d aspiracion

Tubi d aspirazion

Ø 1.5 mm



COUPLAND
301-205-001

Ø 2.0 mm



BYRD
301-207-01 1.5 mm
301-208-02 2.5 mm
301-209-03 3.5 mm

Ø 8.0 mm



COOLEY
301-211-330
33.0 cm, 13"



MILLIN'S SUCTION TUBE
301-212-001
chromium-plated,
with sliding "on & off"
action.

Ø 8.0 mm



COOLEY
301-213-350
35 cm, 13 3/4"

Ø 6.0 mm



COOLEY
301-216-300
30.0 cm, 12"

Ø 10.0 mm



COOLEY
301-218-310
31.0 cm, 12 1/4"



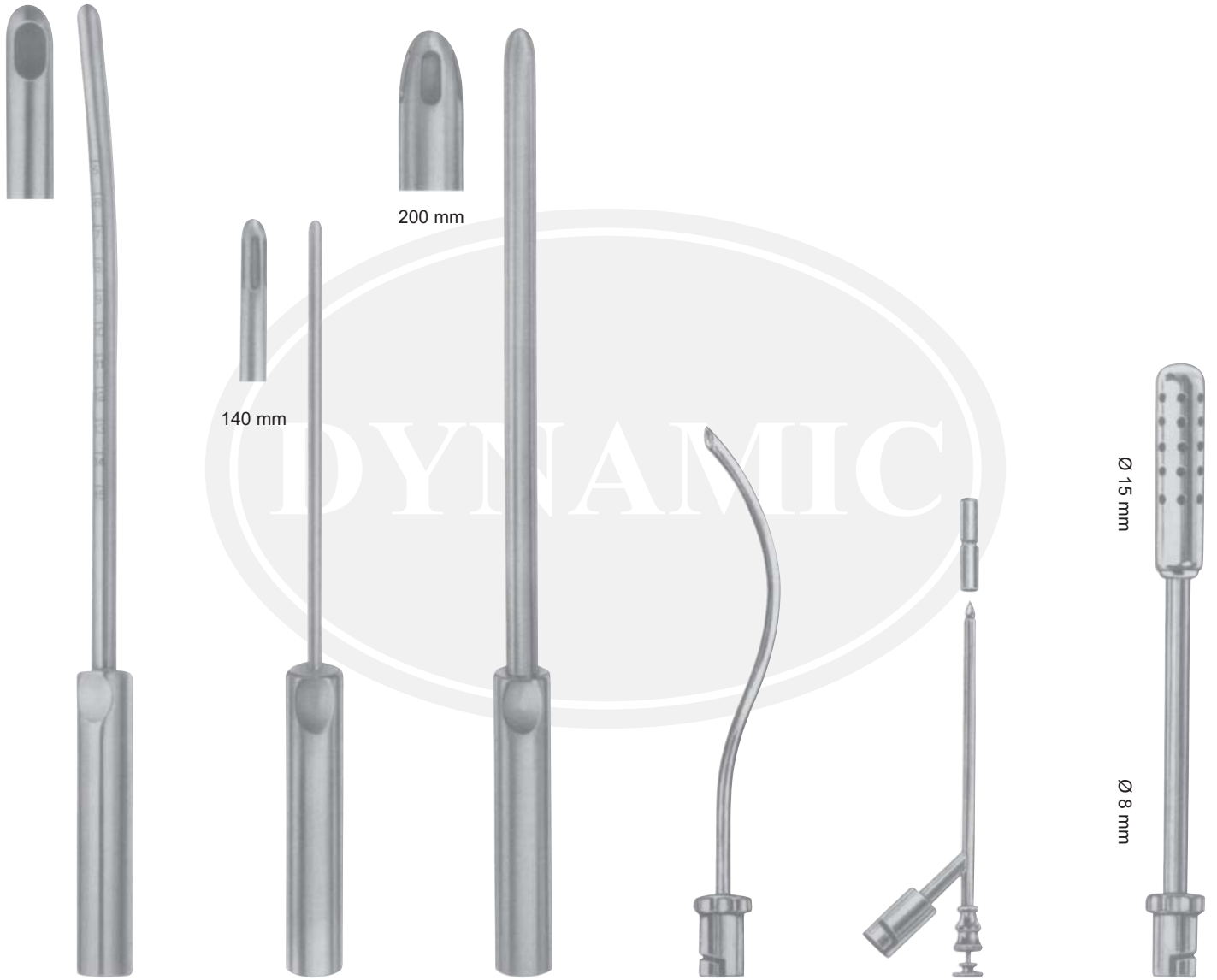
SUCTION TUBES

Sauger, Saugrohre

Tubos de aspiración

Tubos d aspiracion

Tubi d aspirazion



BIEMER

- 301-220-004 Ø 4 mm
 - 301-221-006 Ø 6 mm
 - 301-222-008 Ø 8 mm
 - 301-223-010 Ø 10 mm
 - 301-224-012 Ø 12 mm
 - 301-235-014 Ø 14 mm
- Curettes for aspiration lipectomy, graduated, slightly curved

BIEMER

- 301-238-004 Ø 4 mm
 - 301-239-006 Ø 6 mm
- Curettes for aspiration lipectomy, with three apertures, slightly curved malleable

BIEMER

- 301-241-008 Ø 8 mm
 - 301-242-010 Ø 10 mm
 - 301-243-012 Ø 12 mm
- Curettes for aspiration lipectomy, with three apertures, slightly curved malleable

301-245-170

17 cm, 6 1/4"
For aspirating fluid from the excretory ducts of large glands and for keeping the operating area clear

301-248-150

15 cm, 6"
For aspirating fluid from the excretory ducts of large glands and for keeping the operating area clear

301-250-190

19 cm, 8 1/4"
For aspirating fluid from the excretory ducts of large glands and for keeping the operating area clear



SUCTION TUBES

Sauger, Saugrohre

Tubos de aspiración

Tubos d aspiracion

Tubi d aspirazion



Ø 11 mm

Ø 7.5 mm

TROCAR
301-252-170
17 cm, 6 ¼"
For puncturing

HOLLOW NEEDLE
301-254-150
15 cm, 6"
sharp

301-257-230
23 cm, 9"
double curved
for general
surgery

301-259-190
19 cm, 8 ¼"
double curved
for general
surgery

301-261-220
22 cm, 8 ¾"
double curved
for general
surgery

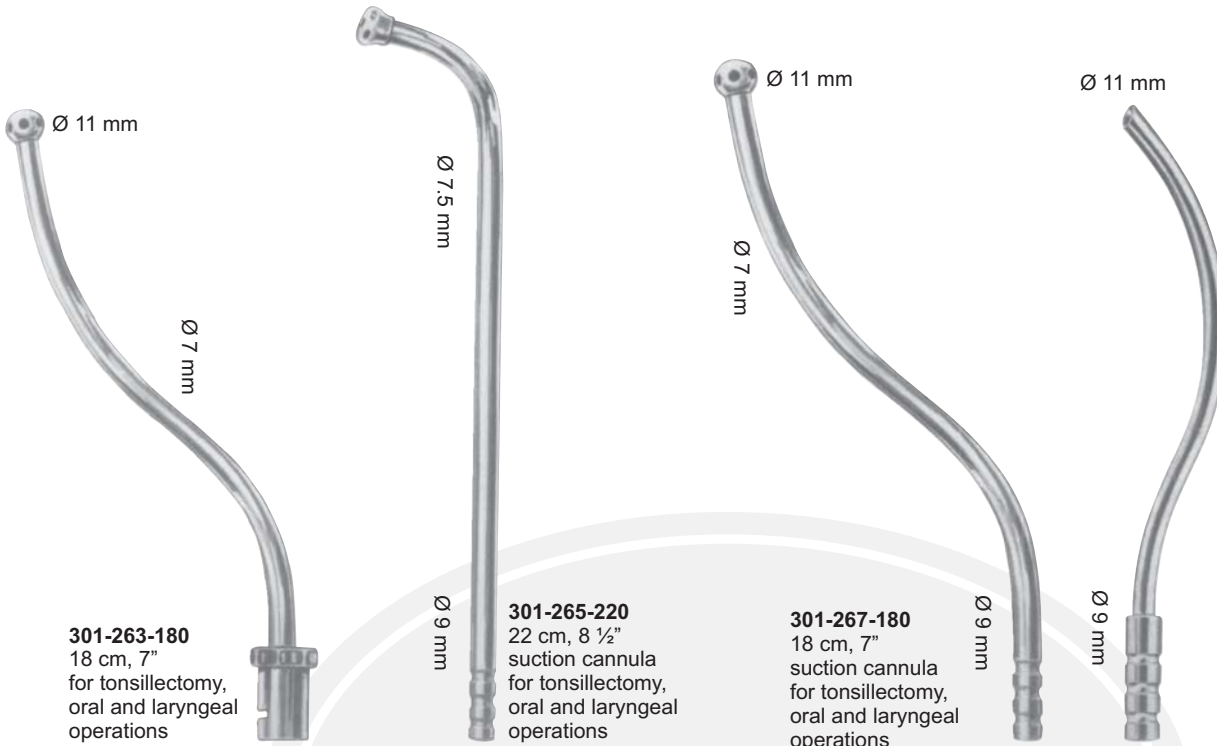


SUCTION TUBES

Sauger, Saugrohre
Ø 11 mm
Tubos de aspiración

Tubos d aspiracion

Tubi d aspirazion

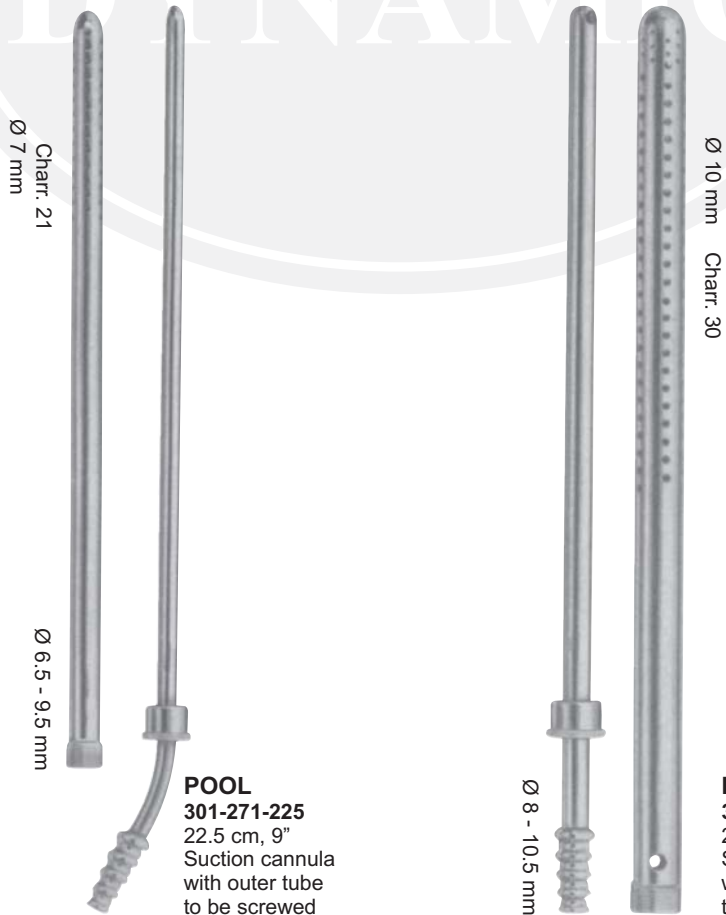


301-263-180
18 cm, 7"
for tonsillectomy,
oral and laryngeal
operations

301-265-220
22 cm, 8 1/2"
suction cannula
for tonsillectomy,
oral and laryngeal
operations

301-267-180
18 cm, 7"
suction cannula
for tonsillectomy,
oral and laryngeal
operations

301-269-170
17 cm, 6 3/4"
S-shaped blunt cannula
for aspirating fluid from
the excretory ducts of
large glands and for
keeping the operations
area clear



Ø 7 mm
Charr: 21

Ø 6.5 - 9.5 mm

POOL
301-271-225
22.5 cm, 9"
Suction cannula
with outer tube
to be screwed

Ø 10 mm
Charr: 30

Ø 8 - 10.5 mm

POOL
301-273-225
22.5 cm, 9"
Suction cannula
with outer tube
to be screwed



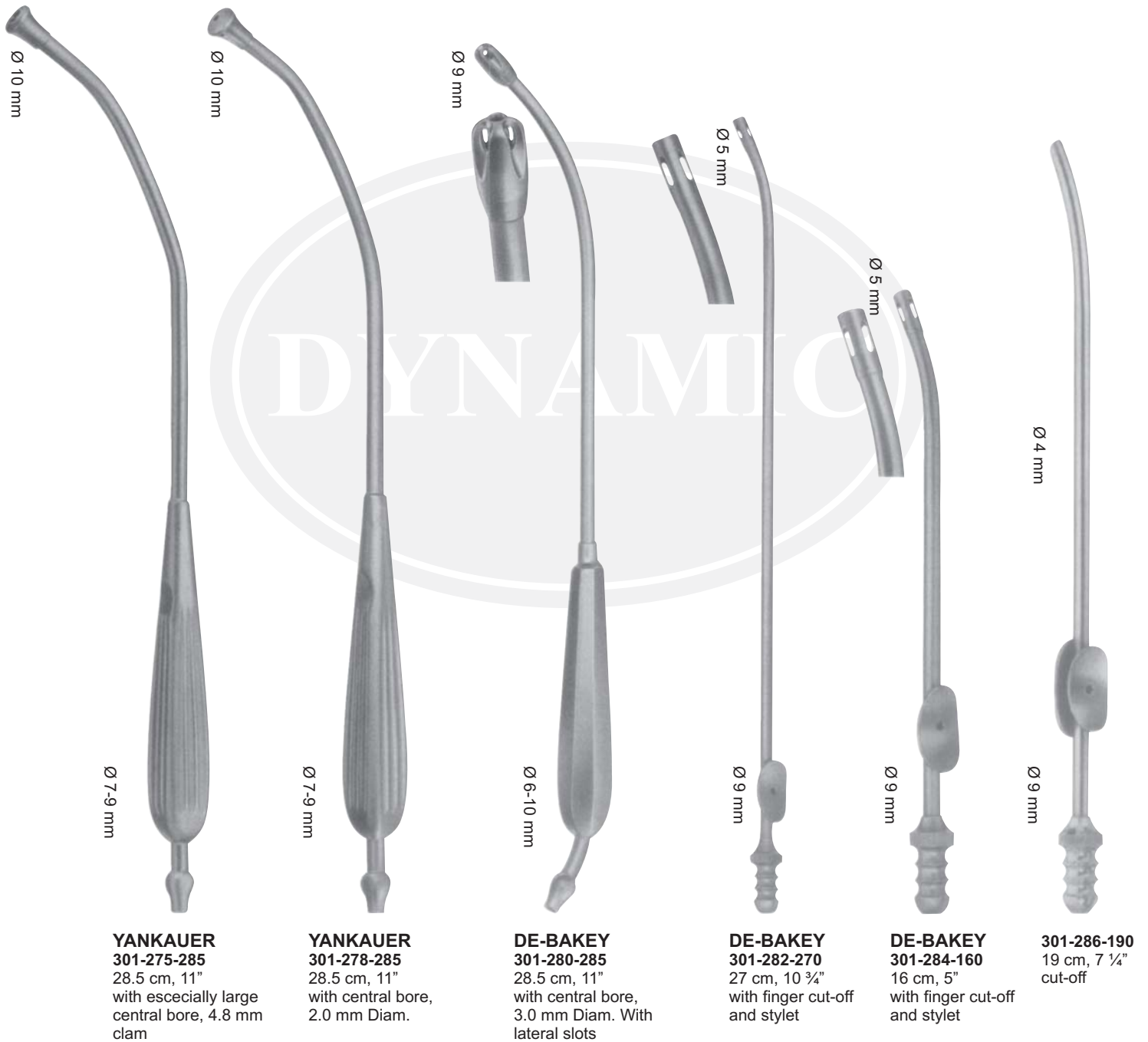
SUCTION TUBES

Sauger, Saugrohre

Tubos de aspiración

Tubos d aspiracion

Tubi d aspirazion





SUCTION TUBES

Sauger, Saugrohre

Tubos de aspiración

Tubos d aspiracion

Tubi d aspirazion



ADSON
301-288-150 4 mm Ø
15 cm, 6"



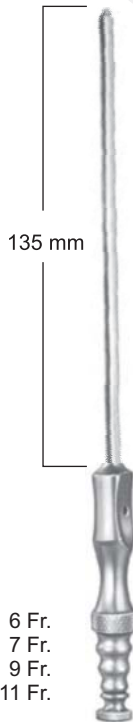
ADSON
301-290-150 4 mm Ø, 15 cm, 6"
301-291-200 4 mm Ø, 20 cm, 8"
301-292-200 5 mm Ø, 20 cm, 8"



PLESTER
301-294-01 1.5 mm Ø
301-295-02 2.0 mm Ø
301-296-03 2.5 mm Ø
301-297-04 3.0 mm Ø



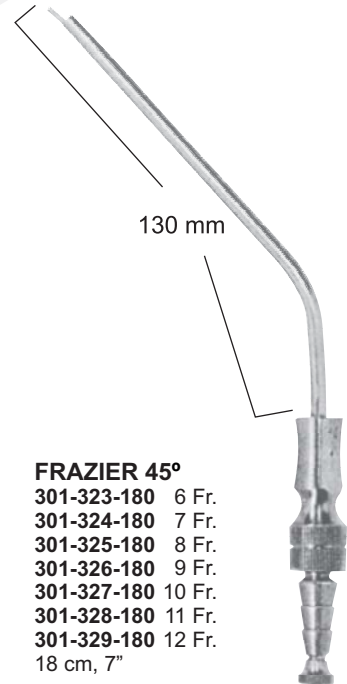
FRAZIER-FERGUSON
301-300-114 6 Fr.
301-301-114 7 Fr.
301-302-114 9 Fr.
301-303-114 10 Fr.
301-304-114 11 Fr.
11.4 cm, 4 1/2"



FRAZIER
301-307-190 6 Fr.
301-308-190 7 Fr.
301-309-190 9 Fr.
301-310-190 11 Fr.
19 cm, 7 1/2"



FRAZIER 30°
301-313-180 6 Fr.
301-314-180 7 Fr.
301-315-180 8 Fr.
301-316-180 9 Fr.
301-317-180 10 Fr.
301-318-180 11 Fr.
301-319-180 12 Fr.
301-320-180 15 Fr.
18 cm, 7"



FRAZIER 45°
301-323-180 6 Fr.
301-324-180 7 Fr.
301-325-180 8 Fr.
301-326-180 9 Fr.
301-327-180 10 Fr.
301-328-180 11 Fr.
301-329-180 12 Fr.
18 cm, 7"



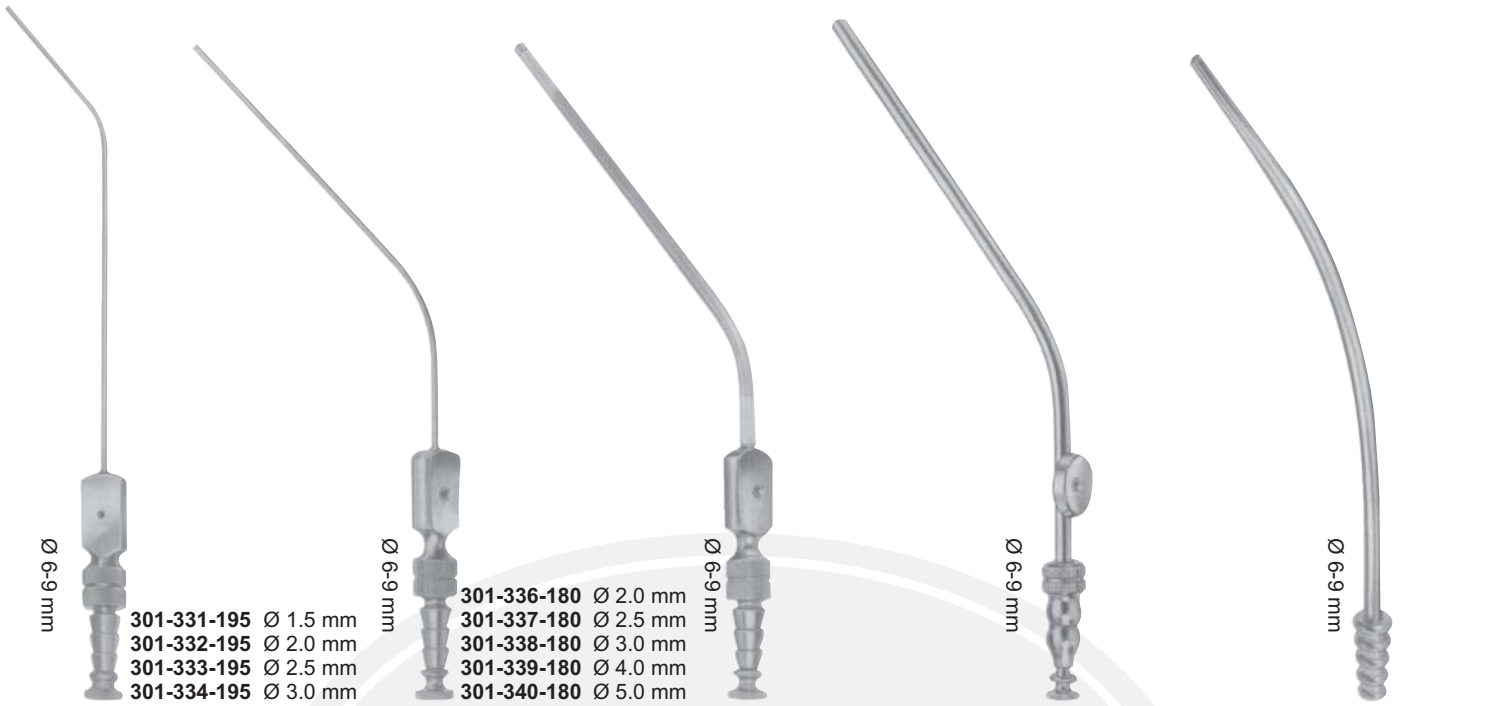
SUCTION TUBES

Sauger, Saugrohre

Tubos de aspiración

Tubos d aspiracion

Tubi d aspirazion



Ø 6-9 mm

- 301-331-195 Ø 1.5 mm
- 301-332-195 Ø 2.0 mm
- 301-333-195 Ø 2.5 mm
- 301-334-195 Ø 3.0 mm

Ø 6-9 mm

- 301-336-180 Ø 2.0 mm
- 301-337-180 Ø 2.5 mm
- 301-338-180 Ø 3.0 mm
- 301-339-180 Ø 4.0 mm
- 301-340-180 Ø 5.0 mm

Ø 6-9 mm

Ø 6-9 mm

Ø 6-9 mm

PLESTER

19.5 cm, 8"
with finger cut-off and stylet, thumb piece parallel to curved, with Luer hub

FERGUSSON

18 cm, 7"
with finger cut-off and stylet, thumb piece 90° to curved, with Luer hub

FERGUSSON

301-342-180 Ø 4.0 mm
18 cm, 7"
insulated, with finger cut-off and stylet, thumb piece 90° to curved, with Luer hub

FRAZIER

301-345-180 Ø 3.0 mm
301-346-180 Ø 5.0 mm
18 cm, 7"
insulated, with finger cut-off and stylet, thumb piece 90° to curved, with Luer hub

301-348-180

18 cm, 7"
Ø 5.0 mm diam., Tip 6.5 mm wide nasal section tube, with luer hub



- 301-350-175 Ø 4.5 mm
 - 301-351-175 Ø 5.5 mm
- 17.5 cm, 7"
Nasal suction tubes

GORNEY
301-353-180
18 cm, 7"
suction dissector

301-355-200 4 mm wide
301-356-200 5 mm wide
20 cm, 8"
suction raspatories, sharp, bayonet-shaped, with stylet

LOPEZ-REINKE
301-358-235
23.5 cm, 9"
tonsil dissector with suction device



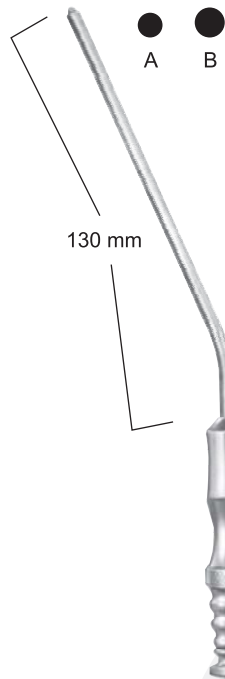
TROCARS / SUCTION TUBES

Trokare, Saugrohre

Trocarts, Tubos d aspiracion

Trócares, Tubos de aspiración

Trequarti, Tubi d aspirazion



FRAZIER



YANKAUER
301-363-270
27 cm, 10 3/4"



ANDREWS-PYNCHON
301-365-235
23.5 cm, 9 1/4"

Fig.	Item	Description	W.L	Tip
A	301-360-180	(18 cm, 7") Angled-75°	4.75"	10 French
B	301-361-180	(18 cm, 7") Angled-75°	4.75"	12 French



UNIVERSAL
301-367-01
Set of 3 Pieces
301-368-02
Set of 4 Pieces



LUER
301-370-01
Luer lock adapter



UNIVERSAL
301-372-140
14 cm, 5 1/2"

1.7 mm Ø

6 mm Ø 4.5 mm Ø 3 mm Ø 1.7 mm Ø



Complete
1.8 mm Ø

LICHTWITZ
301-375-185
18.5 cm, 7 1/4"
antrum trocar



TROCARS

Trokare

Trócares

Trocarts

Trequarti



STANDARD

18.5 cm, 7 1/4"

With stopcock and drain

- 301-377-185 3 mm x 80 mm
- 301-378-185 4 mm x 80 mm
- 301-379-185 5 mm x 80 mm
- 301-380-185 6 mm x 80 mm



STANDARD

18.5 cm, 7 1/4"

With Stopcock

- 301-382-185 3 mm x 80 mm
- 301-383-185 4 mm x 80 mm
- 301-384-185 5 mm x 80 mm
- 301-385-185 6 mm x 80 mm



NELSON

Abdominal Trocarts

- 301-387-170 3.0 mm x 80 mm 17.0 cm, 6 3/4"
- 301-388-170 4.0 mm x 80 mm 17.0 cm, 6 3/4"
- 301-389-170 5.0 mm x 80 mm 17.0 cm, 6 3/4"
- 301-390-170 6.0 mm x 80 mm 17.0 cm, 6 3/4"
- 301-391-210 7.5 mm x 110 mm 21.0 cm, 8 1/4"
- 301-392-210 9.5 mm x 110 mm 21.0 cm, 8 1/4"
- 301-393-210 11.0 mm x 110 mm 21.0 cm, 8 1/4"



BUELAU

301-395-240 8 mm
24.0 cm, 9 1/2"



FLEURANT

301-397-230

23 cm, 9"
5 mm Ø



FLEURANT

301-399-230

23 cm, 9"
5 mm Ø



FLEURANT

301-401-230

23 cm, 9"
5 mm Ø



DOUGLAS

301-403-03

3 mm Ø



301-405-110

11 cm, 4 1/2"

TROCARS

Trokare

Trócares

Trocarts

Trequarti



OCHSNER
Gall Bladder Trocars
301-407-140 4.0 mm x 100 mm
301-409-140 5.5 mm x 100 mm
301-411-140 6.5 mm x 100 mm
14.0 cm, 5 1/2"



LICHTWITZ
Antrum Trocars
301-413-001
1.8 mm



PIERCE
301-415-004
4.0 mm



KRAUSE
301-417-005
5.5 mm



KRAUSE
301-420-005
5.5 mm



COAKLEY
301-422-002
2.25 mm



LANDAU
301-424-002
2.0 mm



VOGEL
Dilatation Forceps
301-427-265
26.5 cm, 10 1/2"



DUKE
301-429-110
11 cm, 4 1/4"
5.5 mm



BIRCH
301-431-180
18 cm, 7"
4.5 mm



NELSON
21 cm, 8 1/4"



1/4
301-433-210
21 cm, 8 1/4"



1/4
301-435-210
21 cm, 8 1/4"



1/4
301-437-210
21 cm, 8 1/4"



1/4
301-440-210
21 cm, 8 1/4"



TROCARS

Trokare

Trócares

Trocarts

Trequarti

Ø 1.75 mm

WULLSTEIN

301-442-160

16 cm, 5 3/4"

Suction tube, conical, silver, oliver with LUER hub

WULLSTEIN

301-445-160 Ø 1.5 mm

301-446-160 Ø 2.0 mm

16 cm, 5 3/4"

Suction tube, cylindrical, silver, with stylet with LUER hub

Usable length

YASARGIL usable length diam.

301-448-130	13 cm, 5"	1.5 mm
301-449-150	15 cm, 6"	1.5 mm
301-450-180	18 cm, 7"	1.5 mm
301-451-220	22 cm, 8 3/4"	1.5 mm
301-453-130	13 cm, 5"	2.0 mm
301-454-150	15 cm, 6"	2.0 mm
301-455-180	18 cm, 7"	2.0 mm
301-456-220	22 cm, 8 3/4"	2.0 mm

YASARGIL usable length diam.

301-459-130	13 cm, 5"	2.5 mm
301-460-150	15 cm, 6"	2.5 mm
301-461-180	18 cm, 7"	2.5 mm
301-462-220	22 cm, 8 3/4"	2.5 mm
301-465-130	13 cm, 5"	3.5 mm
301-466-150	15 cm, 6"	3.5 mm
301-467-180	18 cm, 7"	3.5 mm
301-468-220	22 cm, 8 3/4"	3.5 mm
301-470-180	18 cm, 7"	4.5 mm

Ø 6.5-9 mm
with LUER hub

LANDOLT

301-473-150

15 cm, 6"

diam Ø 3mm

301-475-008 08 mm / curved

301-476-011 11 mm / curved

301-477-015 15 mm / curved

Ø 3.5 mm

Ø 2.0 mm

301-479-350 35 cm, 14"

301-480-500 50 cm, 20"

with rubber tip,
with LUER hub

Ø 9 mm

301-482-250 Ø 2.0 mm

301-483-250 Ø 2.5 mm

301-484-250 Ø 3.0 mm

25 cm, 10"
with finger cut-off
thumb piece 90 to
curved, with luer hub

Ø 6-9 mm



TROCARS

Trokare

Trócares

Trocarts

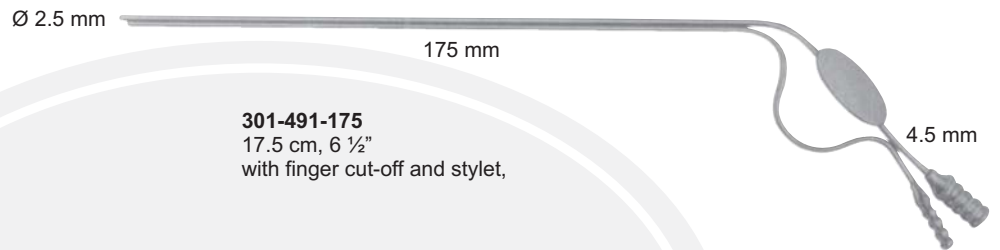
Trequarti



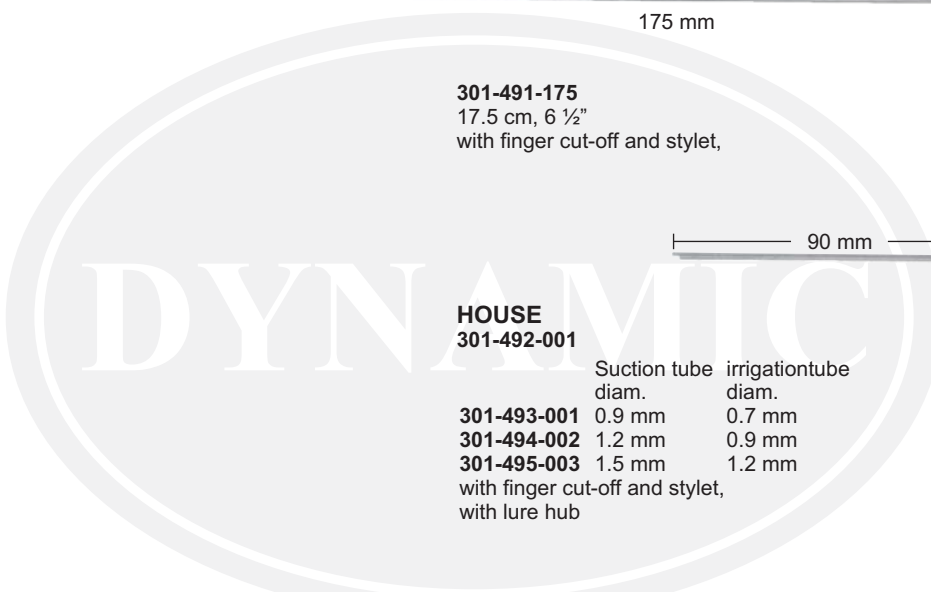
FINSTERER
301-486-320
32 cm, 12 3/4"

Ø 9-13 mm

YASARGIL
LURE-LOCK Cone
301-488-200
20 cm, 8"



301-491-175
17.5 cm, 6 1/2"
with finger cut-off and stylet,

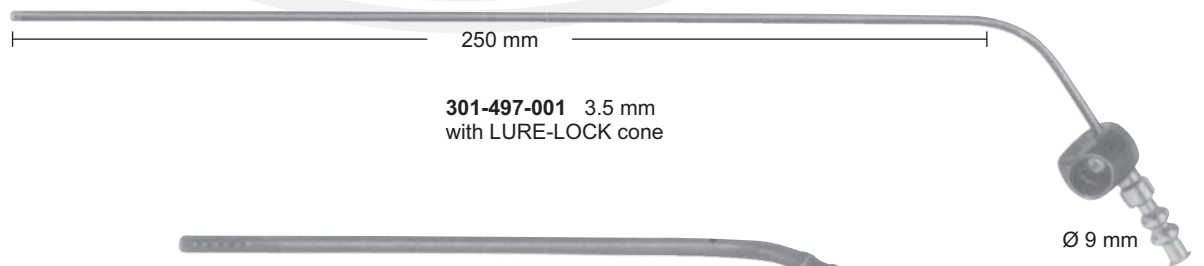


HOUSE
301-492-001

	Suction tube diam.	irrigation tube diam.
301-493-001	0.9 mm	0.7 mm
301-494-002	1.2 mm	0.9 mm
301-495-003	1.5 mm	1.2 mm

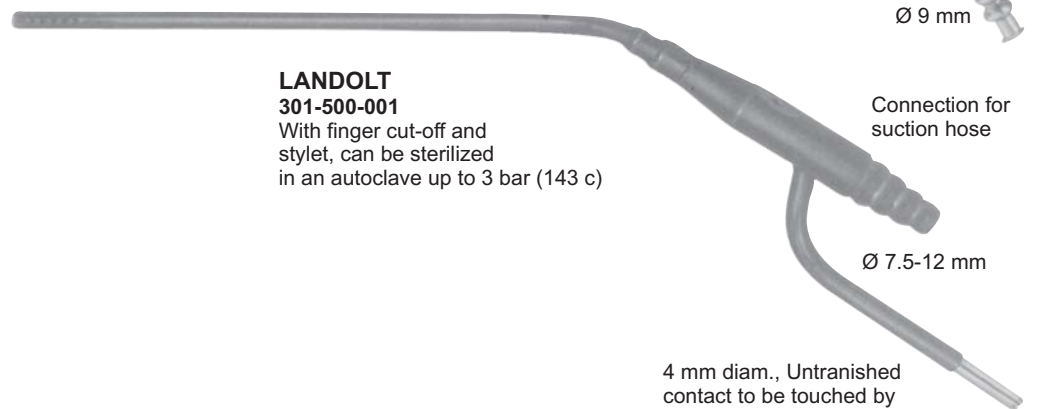
with finger cut-off and stylet,
with lure hub

4 mm
Ø 9-6 mm



301-497-001 3.5 mm
with LURE-LOCK cone

Ø 9 mm



LANDOLT
301-500-001
With finger cut-off and stylet, can be sterilized in an autoclave up to 3 bar (143 c)

Connection for suction hose

Ø 7.5-12 mm

4 mm diam., Untrashed contact to be touched by HF-electrodes