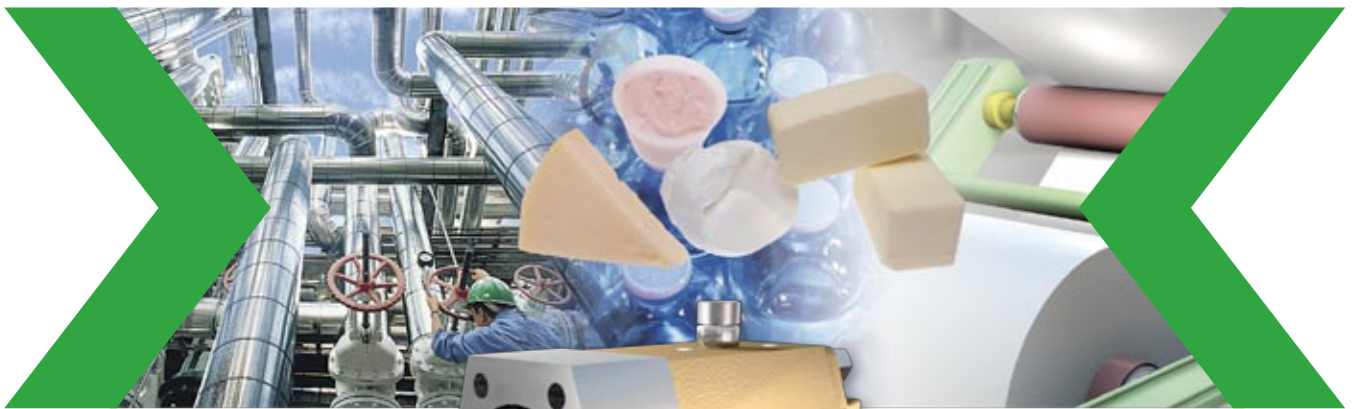




**JOHNSON PUMP GROUP**  
AN SPX BRAND

# TopLobe Rotary Lobe Pumps



# TopLobe –

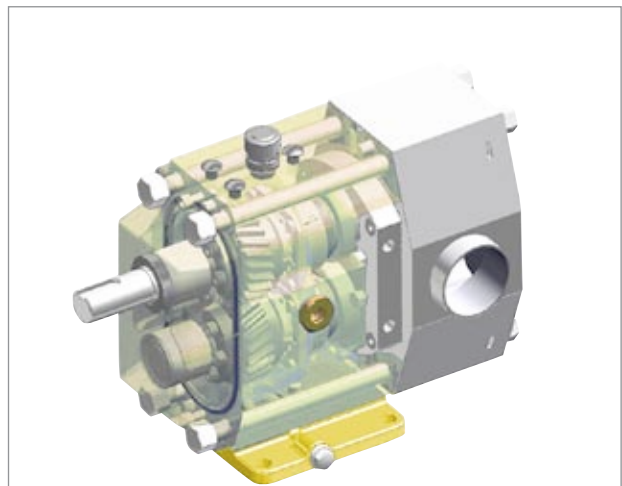
## The new generation of rotary lobe pumps

*Johnson Pump has developed the TopLobe, a rotary lobe pump with radical design improvements for faster maintenance and easier, more effective cleaning, leading to less process downtime. TopLobe is designed to handle the most demanding applications in today's processing industries.*

The original design of the rotary lobe pump goes back to the early 40's and has since then been further developed and improved.

SPX Process Equipment has a long tradition in marketing and distributing rotary lobe pumps. Market knowledge and appreciation of customer needs have been used to improve the existing rotary lobe pump concept with new features and customer benefits.

The group's dedication to product development has culminated in the TopLobe, a new design of stainless steel rotary lobe pumps that overcomes the compromises and constraints associated with the application and use of conventional lobe pumps.



### Typical characteristics

- Front loading seals
- Smooth flow
- Gentle product handling
- Dry running ability
- Efficient transport and dosing
- Handle low and high viscosity products
- Outstanding operational and application qualities
- High availability and efficiency
- Simple maintenance
- Hygienic design
- Low sound level
- EN-standard seals

# TopLobe – From know-how to finding solutions



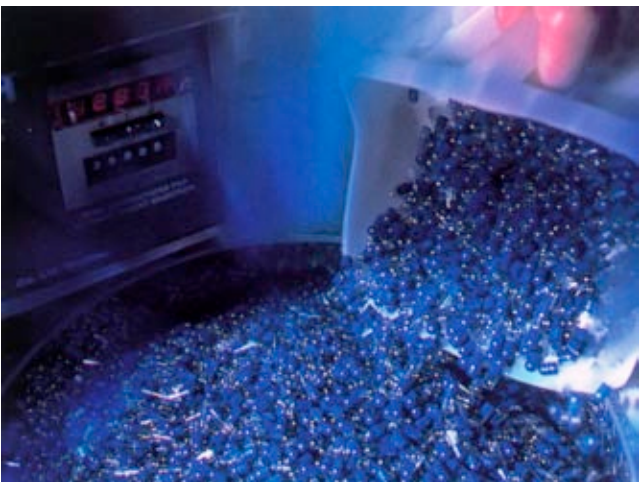
## ■ Food

The hygienic design in combination with its gentle product handling is most suitable for liquids of varying viscosities. The TopLobe can handle delicate liquids containing both soft and hard particles with minimal agitation or shear.



## ■ Fine Chemicals

The demands in fine chemical processing are increasingly becoming the same as in food and pharmaceutical processing. TopLobe is the ideal pump with its gentle product handling, efficiency and CIP-cleaning.



## ■ Pharmaceutical

The TopLobe offers the pharmaceutical processing industry a number of advantages with its low carbon materials of construction combined with hygienic design, gentle product handling and extremely precise dosing.



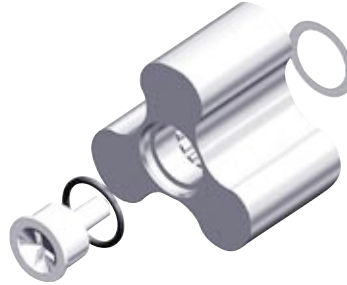
## ■ Chemical industry, Pulp&Paper

The TopLobe has been designed and developed as per today's demands on high product quality, reliability and service, giving it advanced possibilities in handling aggressive chemicals, slurries and pastes.

# Features and *benefits*

## Tri-lobe rotor

- Involute splines with one spline missing
- Sealed with O-rings
- Single point shimming
- *Gentle product handling*
- *Hygienic, no risk for product entrapment*
- *Easy to disassemble/assemble*
- *Passes relatively large solid particles*
- *One-way only assembly*
- *Easy service and maintenance*
- *Quick and easy adjustment of rotor clearances*



## Counter sunk retainer

- *Reliable locking*
- *Hygienic*
- *Safely sealed rotor*
- *No metallic contact*

## Rotorcase

- Simple, robust construction
- Smooth surfaces
- *Hygienic*
- *Minimum risk for product entrapment*
- *Easy to clean, either by CIP, SIP or manually*

## Smooth front cover

- *Hygienic*
- *Easy to clean*

## Connections

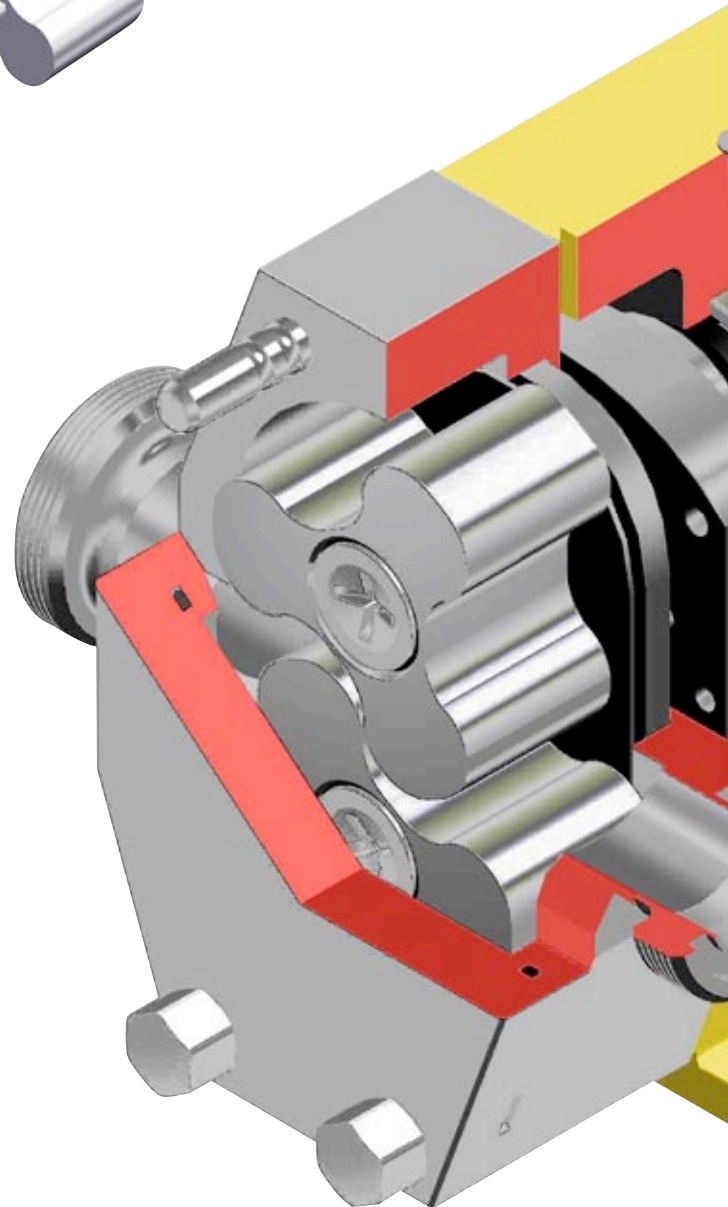
- Large selection
- Welded, maximized inlet opening
- *Few restrictions on applications*
- *Hygienic*
- *Handles highly viscous liquids*
- *Reduces problems with low pressure (NPSHr)*

## Seal cover

- Front loading product seals are mounted directly behind the seal cover
- *Quick and easy access to the seals*
- *Hygienic*
- *Easy service and maintenance*
- *Short maintenance and cleaning downtimes*
- *Easily interchangeable with other seal types*



Stationary part of the mechanical seal



## Shaft sleeve

- *Quick and easy access to the seals*
- *Easily interchangeable with other seal types*
- *Dry shaft*
- *Longer shaft life*



Rotating part of the mechanical seal

### O-ring sealed gearbox cover

- Precise positioning of backmounted bearings
- *Easy, precise assembly of rear bearings*
- *Quick access to gearbox giving easy service and maintenance*

### Maximum bearing size

- Shim-free assembly
- *Capable of high speed*
- *Good lubrication of both bearings and gears*

### Helical gears

- Ringfeder locking
- *Maintain pump head clearances and timing*
- *Low noise level*
- *Easy service and maintenance*

### Robust simple gearbox

- Shim-free
- Oil lubrication
- Minimum shaft deflection
- *Extremely easy to service*
- *Handles extreme exterior operating conditions*
- *Longer life*

### Multi foot

- *Allows for maximum flexibility on installation*
- *For horizontal or vertical mounting*
- *Minimizes restrictions on pipebends and valves*

### Multi flush cover

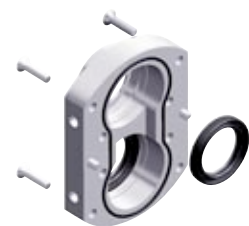
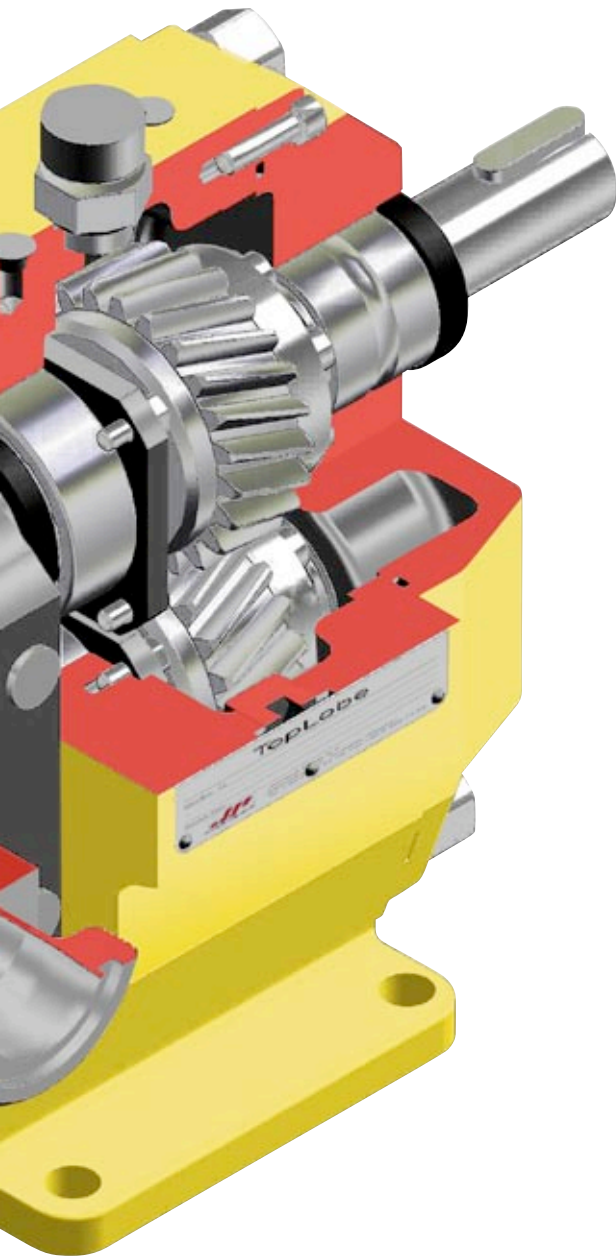
- *One flush cover suitable for all types of shaft seals, quenched or flushed*
- *Versatile*

### Pump shaft

- Involute splines
- O-ring sealed
- *One way only assembly*
- *Reliable transmission*
- *Hygienic*
- *Easy to service*
- *Rotors easy to remove*

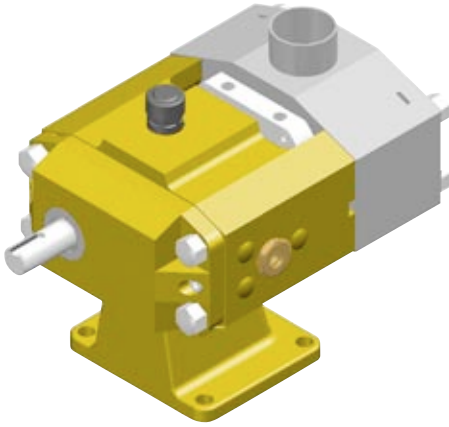
### Shaft seals

- Large selection
- EN standard seals available
- *Easily interchangeable with other seal types*
- *Easy access for inspection and service*
- *Short downtimes*
- *Hygienic design*
- *Front loading for easy maintenance*



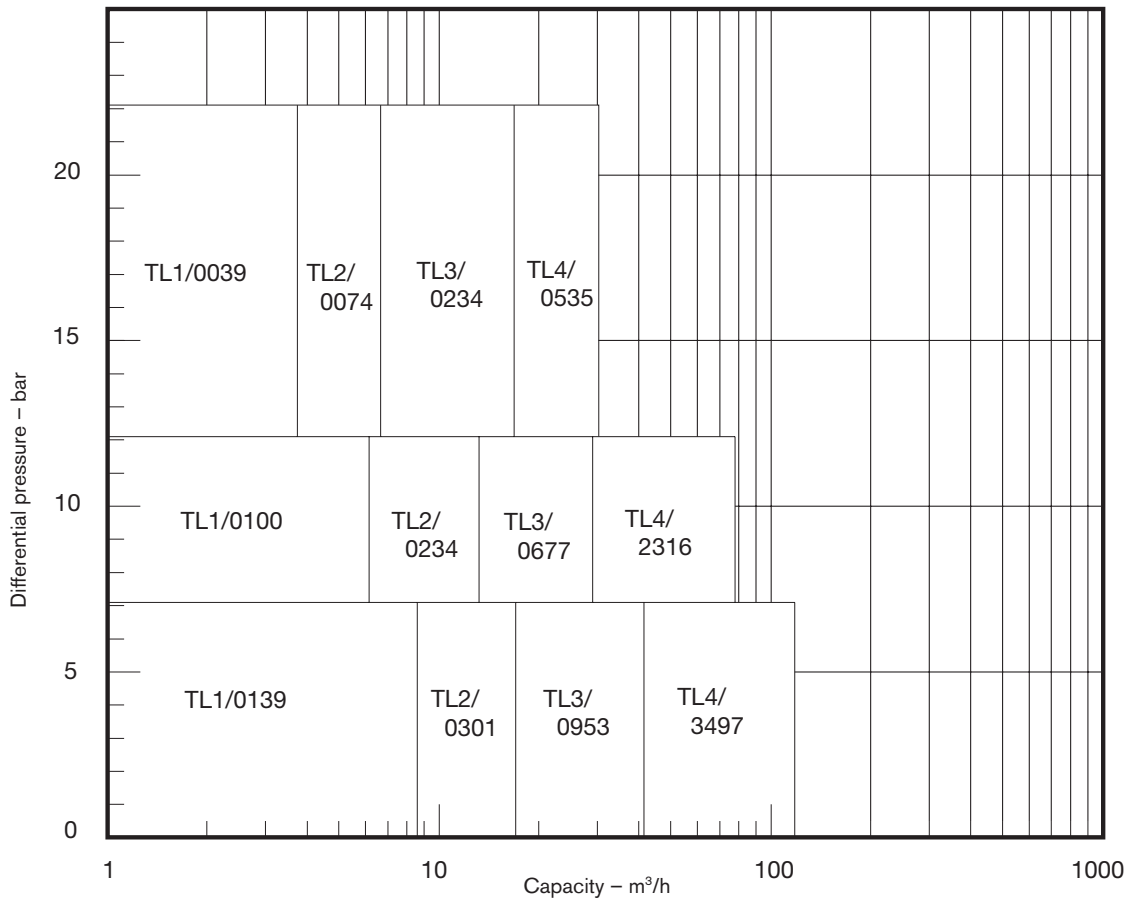
# Technical data

The TopLobe range consists of 12 pumps with connections from 25 mm to 150 mm with a capacity of up to 112 m<sup>3</sup>/h and a maximum working pressure of up to 22 bar.



Pump type	Displacement [dm <sup>3</sup> /rev ]	Nominal internal diameter of connection [mm]	Maximum working pressure [bar]	Maximum speed [rpm]	Maximum torque [Nm]
<b>TL1/0039</b>	0.039	25	22	1450	53
<b>TL1/0100</b>	0.100	25	12	950	53
<b>TL1/0139</b>	0.139	40	7	950	53
<b>TL2/0074</b>	0.074	25	22	1450	108
<b>TL2/0234</b>	0.234	40	12	950	108
<b>TL2/0301</b>	0.301	50	7	950	108
<b>TL3/0234</b>	0.234	40	22	1200	400
<b>TL3/0677</b>	0.677	50	12	720	400
<b>TL3/0953</b>	0.953	80	7	720	400
<b>TL4/0535</b>	0.535	50	22	950	1200
<b>TL4/2316</b>	2.316	100	12	600	1200
<b>TL4/3497</b>	3.497	150	7	600	1200

# Performance overview

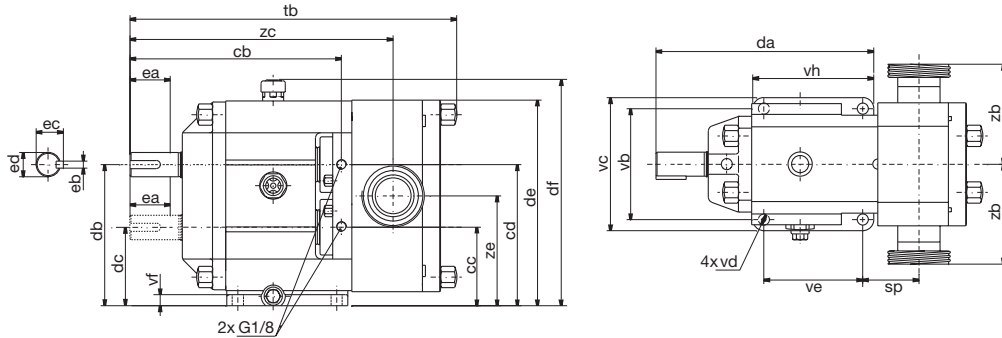


This information should only be considered as guidelines. Please contact us for selecting a pump.

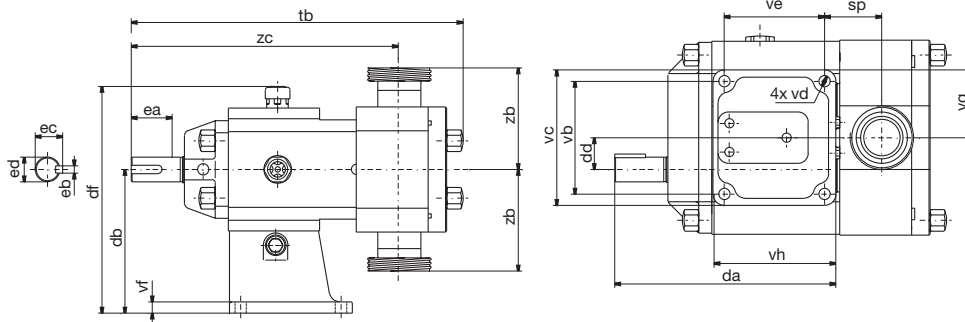
# Dimensions

## Horizontal mounting

Broken line shaft shows position for bottom drive version



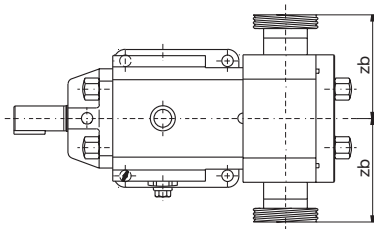
## Vertical mounting



Dimensions in mm

Pump type	cb	cc	cd	da	db	dc	dd	de	df	ea	eb	ec	ed	sp	tb	vb	vc	vd	ve	vf	vg	vh	zc	ze
TL1/0039	177	71.0	115.0	181	118	68	25	172.0	195.0	40	6	21.5	19	45.8	261	100	122	11	83	11	61	105	216	93.0
TL1/0100	177	71.0	115.0	181	118	68	25	172.0	195.0	40	6	21.5	19	42.3	261	100	122	11	83	11	61	105	212	93.0
TL1/0139	177	71.0	115.0	181	118	68	25	172.0	195.0	40	6	21.5	19	48.8	273	100	122	11	83	11	61	105	219	93.0
TL2/0074	210	78.0	140.0	216	140	78	31	204.0	227.0	50	8	27.0	24	55.8	313	110	132	11	98	11	66	120	261	109.0
TL2/0234	210	78.0	140.0	216	140	78	31	204.0	227.0	50	8	27.0	24	49.9	313	110	132	11	98	11	66	120	255	109.0
TL2/0301	210	78.0	140.0	216	140	78	31	204.0	227.0	50	8	27.0	24	55.9	325	110	132	11	98	11	66	120	261	109.0
TL3/0234	280	118.5	188.5	285	200	107	46.5	287.0	310.0	80	10	41.0	38	67.8	401	170	198	13	130	16	99	158	339	153.5
TL3/0677	280	118.5	188.5	285	200	107	46.5	287.0	310.0	80	10	41.0	38	61.8	401	170	198	13	130	16	99	158	333	153.5
TL3/0953	280	118.5	188.5	285	200	107	46.5	287.0	310.0	80	10	41.0	38	73.4	423	170	198	13	130	16	99	158	344	153.5
TL4/0535	467	139.5	235.8	423	250	125	62.5	354.5	377.5	110	16	59.0	55	121.2	608	230	270	17	214	20	135	254	524	187.5
TL4/2316	418	139.5	235.8	423	250	125	62.5	354.5	377.5	110	16	59.0	55	96.4	608	230	270	17	214	20	135	254	499	187.5
TL4/3497	416	139.5	235.8	423	250	125	62.5	354.5	377.5	110	16	59.0	55	122.4	660	230	270	17	214	20	135	254	525	187.5

## Flanges (zb)



- 1 = All thread connections (EN, SMS, DS, BS, ISO, gas thread, NPT thread) and all clamp connections (ISO, SMS, DIN)  
 2 = All flanges EN (PN16, PN25) and ANSI (class 150/class 300)

Dimensions in mm

Pump type	1 - zb	2 - zb
TL1/0039	89	121
TL1/0100	89	121
TL1/0139	89	121
TL2/0074	98	130
TL2/0234	98	130
TL2/0301	98	130
TL3/0234	124	156
TL3/0677	124	156
TL3/0953	134	166
TL4/0535	159	191
TL4/2316	159	189
TL4/3497	159	189