

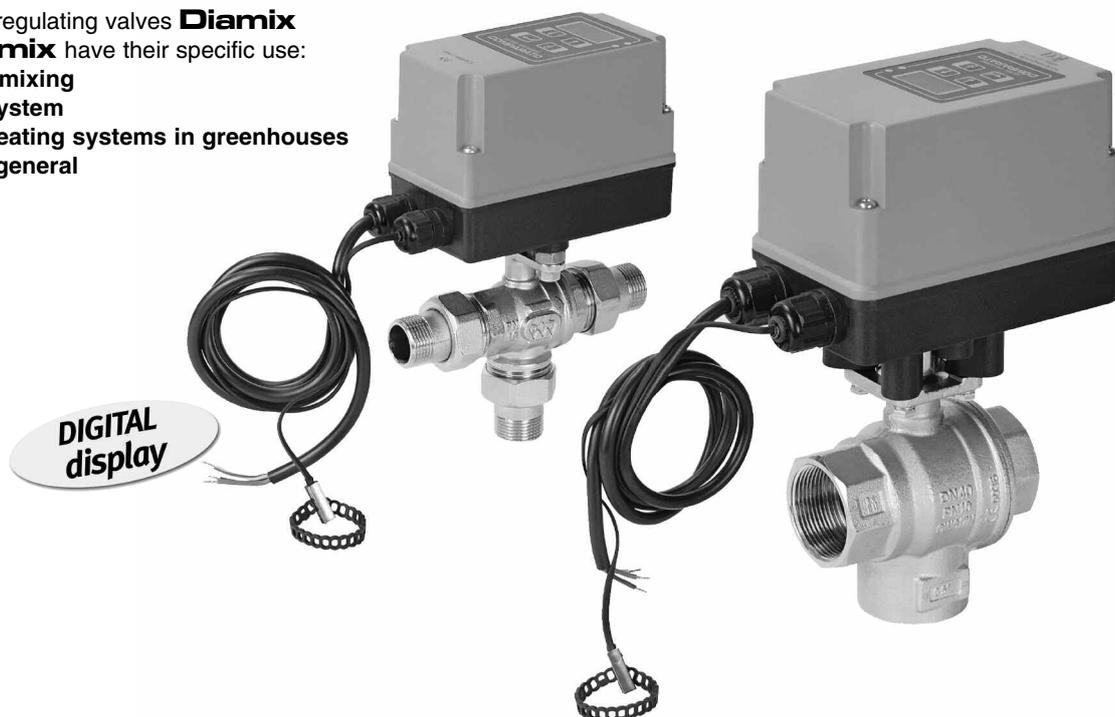
# Diamix - Compamix

MIXING / THERMOREGULATING VALVES CONTROLLED BY MICROPROCESSOR  
WITH SEMICONDUCTOR TEMPERATURE FEELER

## USE

Mixing / thermoregulating valves **Diamix** and **Compamix** have their specific use:

- sanitary water mixing
- floor heating system
- under bench heating systems in greenhouses
- regulations in general



## FUNCTIONING:

**Diamix** and **Compamix** mixing / thermo-regulating valves are controlled by a semiconductor temperature feeler.

They are mainly used where it is necessary to maintain with high fidelity a constant fluid temperature between  $-15$  and  $+85^{\circ}\text{C}$ , no matter pressure, inlet temperature or requested flow.

Some examples of application: hot sanitary water mixing in domestic plants (showers etc.), floor heating systems, sport plants, hotels, industrial plants.

The required temperature is set directly on the mixer using a push-button panel and the values are shown on the display.

According to the signal received from the temperature feeler, the microprocessor produces a modulating signal which regulates the opening and closure of the valve and maintains, with high fidelity, the set temperature.

The presence of a recirculation ring is fundamental.

## VERSIONS

**Diamix** is available in diameters of both  $3/4$ " and  $1$ " (specifically for variable capacities of between 55 and 90 liters/min)

**Diamix iso 5211** is available in diameters of both  $1/2$ " •  $3/4$ " •  $1$ " (specifically for variable capacities of between 40 and 90 liters/min)

**Compamix** is available in diameters of both  $1\ 1/4$ " •  $1\ 1/2$ " •  $2$ " (specifically for variable capacities of between 130 and 280 liters/min)

## TECHNICAL DATA

MODEL	Diamix	Compamix
Electrical power supply (110V on request)	230V • 24V 50/60Hz	230V • 24V 50 Hz
Manoeuvre time ( rotation $90^{\circ}$ )	35 sec. 11 Nm	30 sec. 25 Nm
Absorbed power	7 VA (230V 50 Hz) / 7,5 VA (24V 50 Hz)	12 VA
Degree of electrical protection	IP 65	IP 65
Working environment temperature, for lower temperatures please contact our technical office	from $-10^{\circ}\text{C}$ to $+50^{\circ}\text{C}$	from $-10^{\circ}\text{C}$ to $+50^{\circ}\text{C}$
Regulation field	from $-15^{\circ}\text{C}$ to $+85^{\circ}\text{C}$	from $-15^{\circ}\text{C}$ to $+85^{\circ}\text{C}$
Semiconductor temperature feeler	YES	YES
Microprocessor regulation with proportional, integrated, shunted action	YES	YES
On request		Input up 60 Hz



# Diamix L - Compamix L

MIXING / THERMOREGULATING VALVES CONTROLLED BY MICROPROCESSOR  
WITH SEMICONDUCTOR TEMPERATURE FEELER AND INTEGRATED PROGRAM FOR DISINFECTION AGAINST  
LEGIONELLA BACTERIUM

## USE

**Diamix L** and **Compamix L** thermo-regulating valve is specifically used for: **hot sanitary water mixing in plants with recirculation where it is necessary to carry out a programmed thermal disinfection.**

## FUNCTIONING:

Besides all the functions of standard version (see previous page), **Diamix L** or **Compamix L**, mixing / thermo-regulating valve has a specific software which allows the actuator to make autonomously all processes of thermal disinfection in plants with recirculation ring and, in this way, the danger of presence and proliferation of legionella bacteria is noticeably reduced.

***The multiple variables connected to the realization of plants where this equipment can be installed are so numerous that it is impossible to totally exclude the risk.***

This version is completed with two semi-conductor temperature feelers, one to be placed on the mixed way for the normal regulation and one on the final tract of the recirculation ring for sampling during the thermal disinfection process.

The disinfection function can be started manually or can be programmed through a weekly timer whose default value is during the night between Sunday and Monday at 2:00 AM; statistically this is the most improbable time when users may require water.

This function can be frozen if desired. The disinfection duration derives from plant features because the Legionella bacterium reacts in different ways according to the max. temperature reached in the final tract of the ring.

The more the temperature increases, the more the duration is reduced:

- higher than 70°C the disinfection last 30 minutes
- between 65°C and 70°C the disinfection last 60 minutes
- between 60°C and 65°C the disinfection last 120 minutes
- between 57°C and 60°C the disinfection last 180 minutes
- between 55°C and 57,5°C the disinfection last 240 minutes.

The system adjusts the duration according to the temperature felt in each moment of the process. The valve is equipped with a relay for the recirculation pump supply during the disinfection and it has outlet signals to be used in case of malfunctioning for instance if the disinfection process fails to be completed because the reached water temperature isn't sufficiently high. The valve carries out a test to confirm if the procedure has been executed according to the set criteria. At the end of the disinfection process the valve works again as mixing one.

To avoid burns when opening the water tap while thermal disinfection process it is advisable to install ant-burn safety devices on each user outlet.

## VERSIONS

**Diamix L** is available in diameters of both 3/4" and 1" (specifically for variable capacities of between 55 and 90 liters/min)

**Diamix iso 5211 L** is available in diameters of both 1/2" • 3/4" • 1" (specifically for variable capacities of between 40 and 90 liters/min)

**Compamix L** is available in diameters of both 1"1/4 • 1"1/2 • 2" (specifically for variable capacities of between 130 and 280 liters/min)

## TECHNICAL DATA

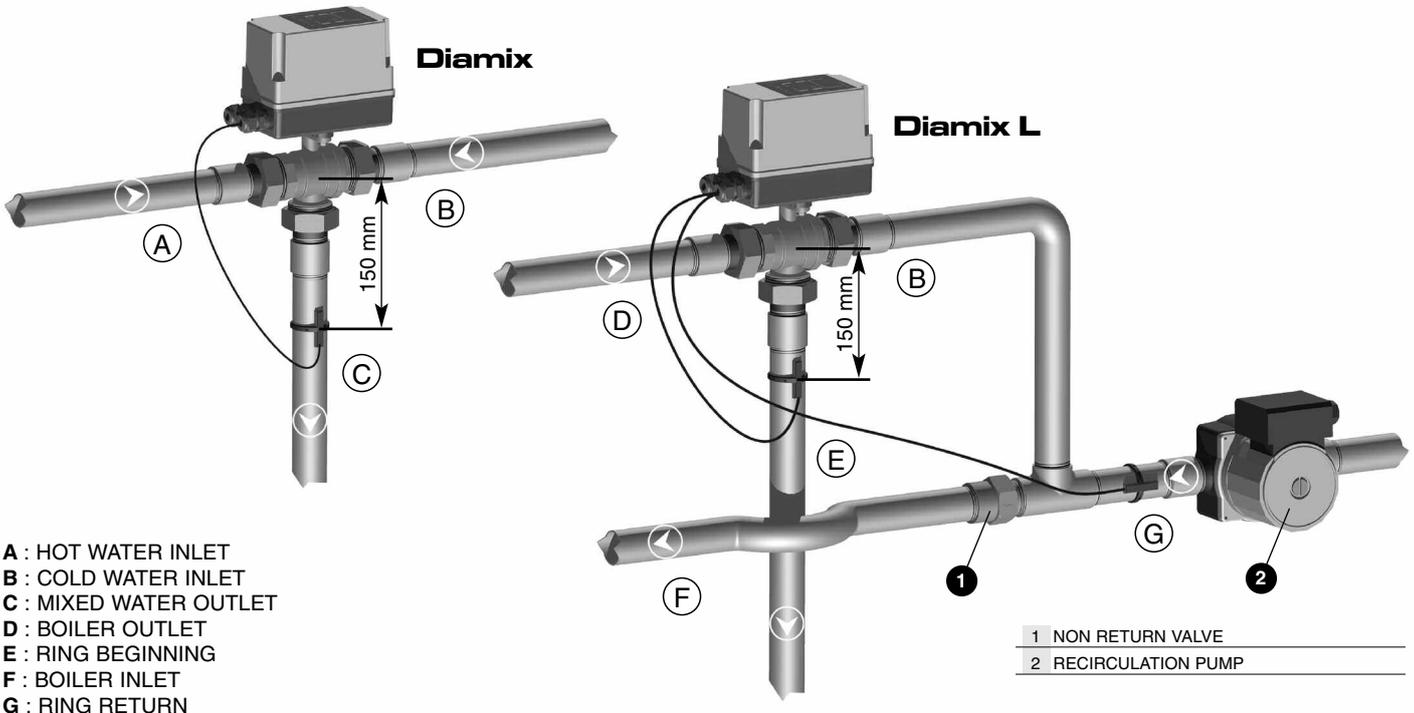
MODEL	Diamix L	Compamix L
Electrical power supply (110V on request)	230V • 24V 50/60Hz	230V • 24V 50 Hz
Manoeuvre time ( rotation 90°)	35 sec. 11 Nm	30 sec. 25 Nm
Absorbed power	7 VA (230V 50 Hz) / 7,5 VA (24V 50 Hz)	12 VA
Degree of electrical protection	IP 65	IP 65
Working environment temperature, for lower temperatures please contact our technical office	from -10°C to +50°C	from -10°C to +50°C
Regulation field	from -15°C to +85°C	from -15°C to +85°C
Semiconductor temperature feeler	YES	YES
Microprocessor regulation with proportional, integrated, shunted action	YES	YES
On request		Input up 60 Hz



# Diamix - Compamix

MIXING / THERMOREGULATING VALVES CONTROLLED BY MICROPROCESSOR  
WITH SEMICONDUCTOR TEMPERATURE FEELER

## NOTES FOR ASSEMBLING DIAMIX - DIAMIX L



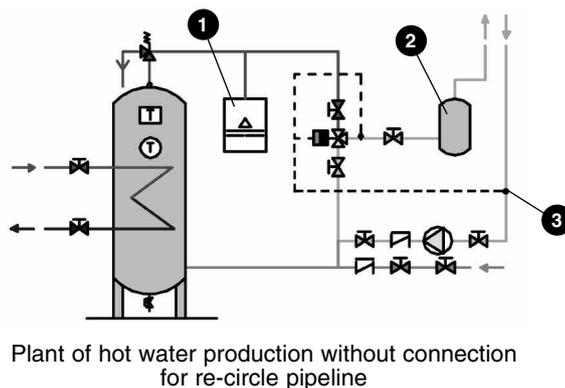
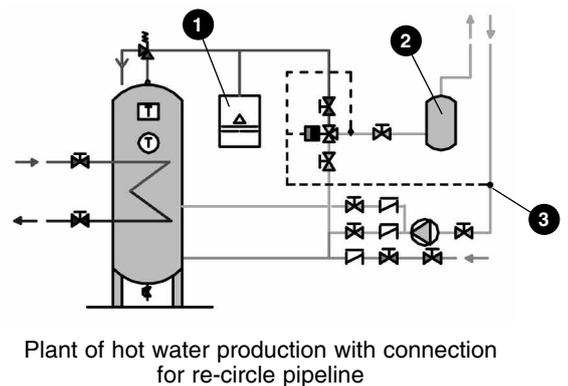
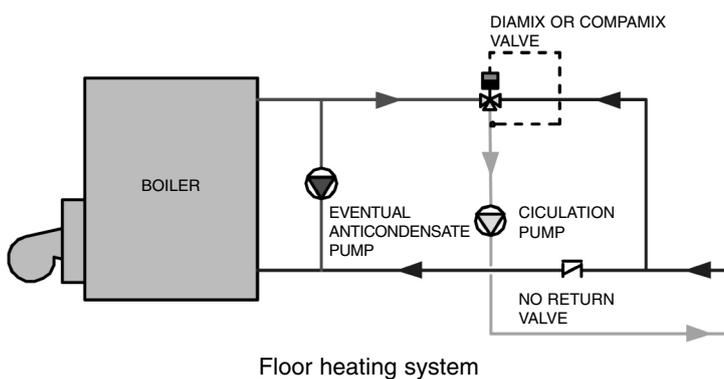
- A : HOT WATER INLET
- B : COLD WATER INLET
- C : MIXED WATER OUTLET
- D : BOILER OUTLET
- E : RING BEGINNING
- F : BOILER INLET
- G : RING RETURN

Place the feeler on the outlet pipe at min. 150 mm. away from the TEE cross. Fasten it to the pipe using the apposite gum clamp.

**ATTENTION:**

*The pipe tract where the temperature feeler is placed must be necessary metal-made. After this tract the pipe can be made of any material suitable for this use.*

## APPLICATION EXAMPLES



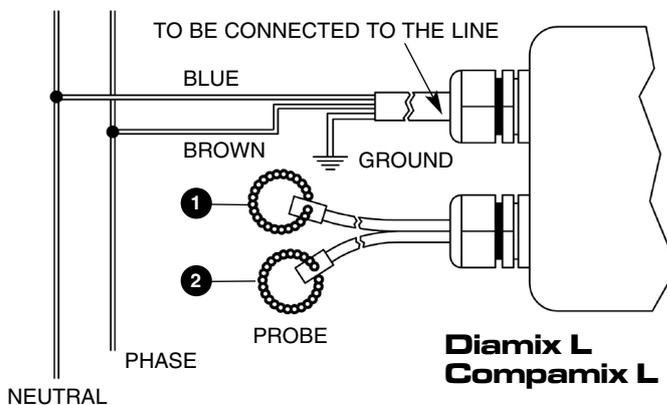
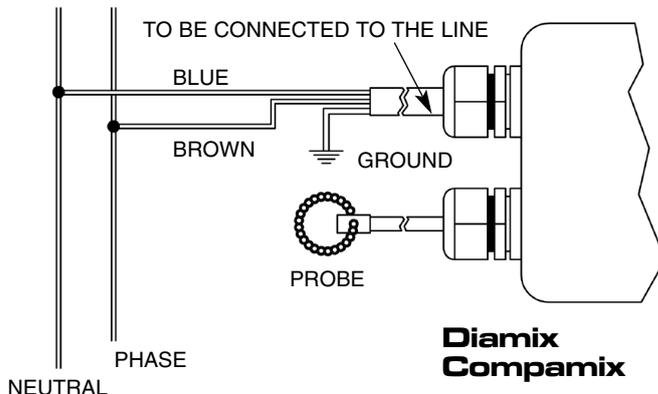
- 1 SANITARY EXPANSION VESSEL
- 2 HYDRAULIC SHOCK ABSORBER TANK
- 3 RECIRCULATION RING TEMPERATURE FEELER ONLY FOR DIAMIX L AND COMPAMIX L



# Diamix - Compamix

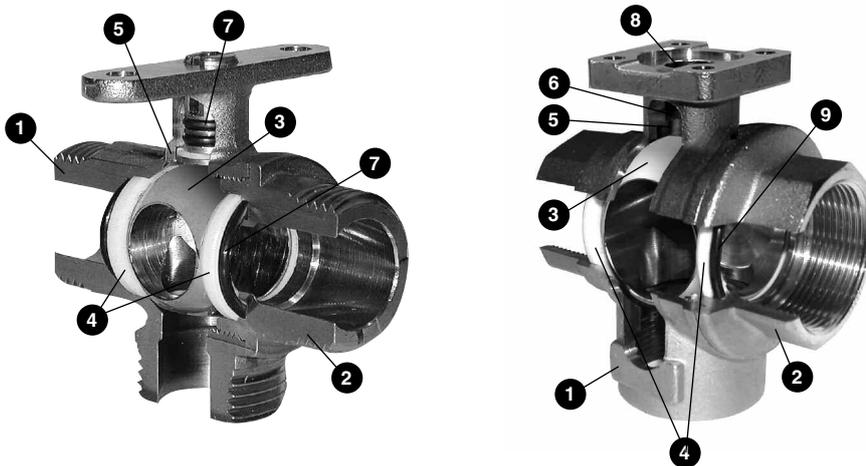
MIXING / THERMOREGULATING VALVES CONTROLLED BY MICROPROCESSOR  
WITH SEMICONDUCTOR TEMPERATURE FEELER

CONNECTION SCHEME



- 1 FEELER ON MIXED WAY
- 2 FEELER ON RECIRCULATION RETURN

USED MATERIAL FOR BODY VALVE



**Diamix**      **Compamix**  
**Diamix L**      **Compamix L**

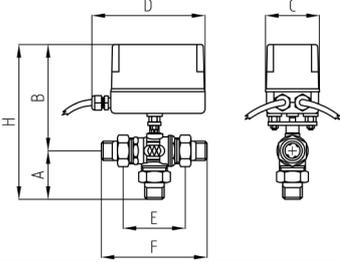
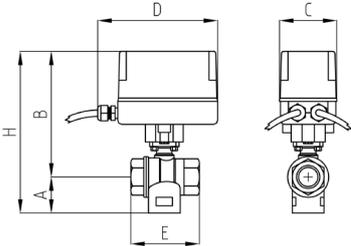
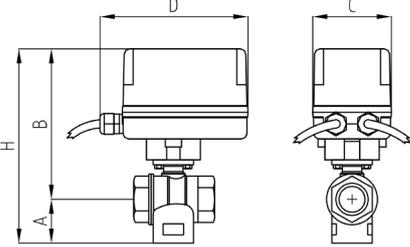
1 BODY	OT 58 UNI 5705 CHROMATE NICKEL	CW617N UNI EN 12165
2 COUPLING	OT 58 UNI 5705	CW617N UNI EN 12165
3 SPHERE	OT 58 UNI 5705 CHROMATE NICKEL	CW617N UNI EN 12165
4 SPHERE GASKET	P.T.F.E. (TEFLON®)	P.T.F.E. (TEFLON®)
5 ANTI-FRICTION GASKET	P.T.F.E. (TEFLON®)	P.T.F.E. (TEFLON®)
6 PIN GASKET		P.T.F.E. (TEFLON®)
7 O-RING	EPDM	
8 GASKET BUSH		CW614N UNI EN 12164
9 O-RING		FKN



# Diamix - Compamix

MIXING / THERMOREGULATING VALVES CONTROLLED BY MICROPROCESSOR  
WITH SEMICONDUCTOR TEMPERATURE FEELER

## OVERALL DIMENSIONS

MODEL	Ø	A	B	C	D	E	F	H
<b>DIAMIX - DIAMIX L</b>								
	3/4"	67	147	74	155	85	145	214
	1"	77	151	74	155	95	165	228
<b>DIAMIX - DIAMIX L ISO CONNECTION</b>								
	1/2"	34	149	74	155	64		183
	3/4"	40	160	74	155	74		200
	1"	47	164	74	155	89		211
<b>COMPAMIX - COMPAMIX L</b>								
	1"1/4	55	187	97	183	100		242
	1"1/2	62	199	97	183	110		261
	2"	73	205	97	183	130		278

## DETAIL OF DIGITAL DISPLAY



# Diamix - Compamix

MIXING / THERMOREGULATING VALVES CONTROLLED BY MICROPROCESSOR  
WITH SEMICONDUCTOR TEMPERATURE FEELER

## FLUID MECHANICAL CHARACTERISTICS

Kv (m<sup>3</sup>/h with  $\Delta p = 100\text{kPa} = 1\text{bar}$ )

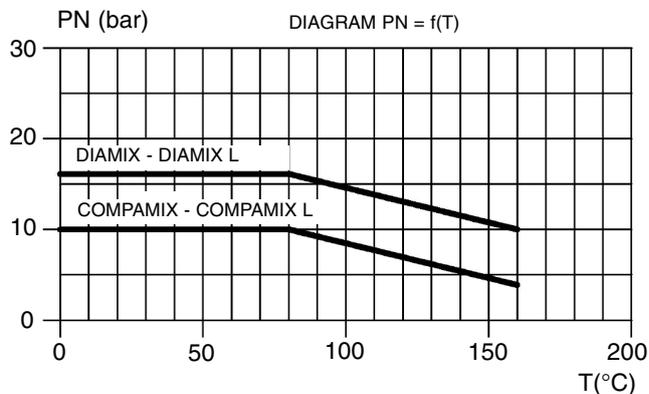
Model	Ø	Rate liters/min	Kv m <sup>3</sup> /h
<b>DIAMIX DIAMIX L</b>	1/2"	40	2,5
	3/4"	70	5
	1"	130	9
<b>COMPAMIX COMPAMIX L</b>	1"1/4	180	13,5
	1"1/2	270	19,2
	2"	390	28,9

The typical mixer capacities refers to an average upstream pressure of 4Kg/cm<sup>2</sup> (3,92 bar) and a differential pressure of approx. 10 m on the H<sub>2</sub>O column (1bar).

In order to avoid the risk of any temperature oscillations during sudden and consistent water drawing operations, it is advisable to insert a small tank to act as a buffer on the delivery piping.

Here follows a list of the capacity values for reference purposes only recommended for the T mixer valve diameters.

Ø	Tank capacity
1/2"	10÷20 liters
3/4"	10÷20 liters
1"	20÷30 liters
1"1/4	25÷40 liters
1"1/2	30÷50 liters
2"	40÷60 liters



### PRESSURE

	<b>Diamix-Diamix L</b>	<b>Compamix-Compamix L</b>
• Nominal working pressure	16 bar	10 bar
• Working max differential	16 bar	10 bar

### FLUIDS Usable fluids

Water and fluids compatible with EPDM® and TEFLON® • Other fluids on request

### TEMPERATURES

	<b>Diamix-Diamix L</b>	<b>Compamix-Compamix L</b>
• Minimum	+7 °C	+7 °C
• Maximum	+100 °C	+100 °C

ALWAYS UPDATED DATASHEETS ARE AVAILABLE ON OUR WEB-SITE [www.comparato.com](http://www.comparato.com)



HYDROTHERMAL SYSTEMS  
**COMPARATO NELLO SRL**

OFFICES: 17043 CARGARE (SV) ITALY VIA G. C. ABBA, 30 • Tel. +39 019 510.371 - FAX +39 019 517.102

• FACTORY: LOC. PRADONNE N° 19

[www.comparato.com](http://www.comparato.com)

e-mail: [info@comparato.com](mailto:info@comparato.com)

QUALITY SYSTEMS CERTIFIED UNI EN ISO 9001: 2008

# Diamix - Compamix

MIXING / THERMOREGULATING VALVES CONTROLLED BY MICROPROCESSOR  
WITH SEMICONDUCTOR TEMPERATURE FEELER



# Diamix - Compamix

MIXING / THERMOREGULATING VALVES CONTROLLED BY MICROPROCESSOR  
WITH SEMICONDUCTOR TEMPERATURE FEELER

