C l a i m s

1. System (2; 102) for connecting rigid pipes (4) and for connecting flexible pipes (6), wherein the pipes (4, 6) have corresponding outer diameters,
- with a press jaw (10; 110) having a press contour (8; 108),
- with at least one first fitting (20; 120) for press-fitting to a rigid pipe (4),
  -- wherein the at least one first fitting (20; 120) is formed as an externally sealing fitting and externally seals a rigid pipe (4) to be connected, and
  -- wherein the at least one first fitting (20; 120) comprises a first press sleeve (21; 121) having a first outer contour (22; 122),
- with at least one second fitting (40; 140) for press-fitting to a flexible pipe (6),
  -- wherein the at least one second fitting (40; 140) is formed as an internally sealing fitting and seals a flexible pipe (6) to be connected from the inside, and
  -- wherein the at least one second fitting (40; 140) comprises a second press sleeve (41; 141) having a second outer contour (42; 142),
- wherein the outer contour (22; 122) of the first press sleeve (21; 121) and the outer contour (42; 142) of the second press sleeve (41; 141) are each adapted at least in sections to the press contour (8; 108) of the press jaw (10; 110) and can be pressed by the press jaw (10; 110).

2. System (2; 102) according to claim 1,
characterised in,
that the outer contours (22; 122; 42; 142) of the first press sleeve (21; 121) and of the second press sleeve (41; 141) match at least in sections.

3. System (2; 102) according to claim 1 or 2,
characterised in,
- that the press sleeves (21; 121; 41; 141) form a chamber (23; 123; 43; 143) directed inwards towards the pipe (4, 6) to be received, and

- that at least one clamp element, sealing element and/or force transmission element is accommodated in the chamber (23; 123; 43; 143).

4. System (2; 102) according to claim 3,
characterised in,
that the chamber (23; 123) of the first press sleeve (21; 121) and the chamber (43; 143) of the second press sleeve (41; 141) accommodate different clamp elements, sealing elements and/or force transmission elements.

5. System (2; 102) according to any one of claims 1 to 4, characterized in,
- that the first press sleeve (121) has a first additional press section (121a),
- that the second press sleeve (141) has a second additional press section (141b),
- wherein the first additional press section (121a) and the second additional press section (141b) have outer contours (108a; 108b) differing from each other and can each be formed in sections by the press jaw (110).

6. System (2; 102) according to any one of claims 1 to 5, characterized in,
that the first fitting (20; 120) and/or the second fitting (40; 140) are formed according to one of the claims 6 to 21.

7. System (2; 102) according to any one of claims 3 to 6,
characterised in,
- that the ratio of the volume V(starr) of the chamber (23, 123) of the press sleeve (21, 121) of the first fitting (20, 120) to the volume V(flex) of the chamber (43, 143) of the press sleeve (41, 141) of the second fitting (40, 143) is given by $\delta = \frac{V(starr)}{V(flex)}$,
- that the volume V(starr) is given by
$V(starr) = \frac{\pi \cdot LK(starr)}{4} \cdot (DK(starr)^2 - DR(starr)^2)$,
with LK(starr) the length of the chamber (23, 123),
with DK(starr) the inner diameter of the chamber (23, 123) and
with DR(starr) the outer diameter of the rigid pipe (4) to be accommodated,

- that the volume V(flex) is given by

$$V(flex) = \frac{\pi \cdot LK(flex)}{4} \cdot (DK(flex)^2 - DR(flex)^2),$$

with LK(flex) the length of the chamber (43, 143),
with DK(flex) the inner diameter of the chamber (43, 143) and
with DR(flex) the diameter of the flexible pipe (6) to be accommodated,

- that the ratio is given by

$$\delta = \frac{V(starr)}{V(flex)} = \frac{LK(starr)}{LK(flex)} \cdot \frac{(DK(starr)^2 - DR(starr)^2)}{(DK(flex)^2 - DR(flex)^2)}, \text{ and}$$

- in that δ assumes values from a value range [0.50; 3.00], preferably [0.50; 1.50], particularly preferably [0.75; 1.25].

8. System (2; 102) according to any one of claims 3 to 7,
characterised in,

- that the ratio of the difference between the inside diameter DK(starr) of the chamber (23, 123) of the press sleeve (21, 121) of the first fitting (20, 120) and the outside diameter DR(starr) of the rigid pipe (4) to be accommodated to twice the length LK(starr) of the chamber (23, 123) is given by

$$\varepsilon(starr) = \frac{DK(starr) - DR(starr)}{2 \cdot LK(starr)} \text{and}$$

- that ε(starr) assumes values from a range of values [0.10; 0.50], preferably [0.2; 0.4], particularly preferably [0.25; 0.35].

9. System (2; 102) according to any one of claims 3 to 8,
characterised in,

- that the ratio of the difference between the inner diameter DK(flex) of the chamber (43, 143) of the press sleeve (41, 141) of the second fitting (40, 140) and the external diameter DR(flex) of the flexible pipe (6) to be accommodated to twice the length LK(flex) of the chamber (43, 143) is given by

$$\varepsilon(flex) = \frac{DK(flex) - DR(flex)}{2 \cdot LK(flex)} \text{and}$$

- that ε(starr) assumes values from a range of values [0.10; 0.70], in particular [0.10; 0.50], preferably [0.20; 0.60], in particular [0.2; 0.4], particularly preferably [0.25; 0.50], in particular [0.25; 0.35].

10. System (2; 102) according to any one of claims 3 to 9,
characterised in,

- that ε(starr) is given by
$\varepsilon(starr) = \frac{DK(starr)-DR(starr)}{2 \cdot LK(starr)}$,

with the inner diameter DK(starr) of the chamber (23, 123) of the press sleeve (21, 121) of the first fitting (20, 120) and
with the outer diameter DR(starr) of the rigid pipe (4) to be accommodated and
with the length LK(starr) of the chamber (23, 123),

- that ε(flex) is given by
$\varepsilon(flex) = \frac{DK(flex)-DR(flex)}{2 \cdot LK(flex)}$,

with the inner diameter DK(flex) of the chamber (43, 143) of the press sleeve (41, 141) of the second fitting (40, 140) and
with the outer diameter DR(flex) of the flexible pipe (6) to be accommodated and
with the length LK(flex) of the chamber (23, 123),

- that the ratio α is given by
$\alpha = \frac{\varepsilon(starr)}{\varepsilon(flex)} = \frac{LK(flex)}{LK(starr)} \cdot \frac{(DK(starr)-DR(starr))}{(DK(flex)-DR(flex))}$ and

- that α assumes values from a value range [0.50; 3.00], preferably [0.50; 1.50], particularly preferably [0.75; 1.25].

11. System (2; 102) according to any one of claims 3 to 10,
characterised in,

- that the degree of compression β(starr) when the first fitting (20, 120) is press-fitted to a rigid pipe (4) is given by $\beta(starr) = \frac{DK(starr)+2s(starr)-DPK(starr)}{\mathrm{DR}(starr)}$,

with the inner diameter DK(starr) of the chamber (23, 123) of the press sleeve (21, 121) of the first fitting (20, 120) before pressing,
with the wall thickness s(starr) of the press sleeve (21, 121) in the area of the first fitting (20, 120) to be pressed before pressing ,
with the outer diameter DR(starr) of the rigid pipe (4) to be accommodated before pressing and
with the inner diameter DPK(starr) of the press contour (8, 108) of the press jaw

(10, 110) in the region of the first fitting (20, 120) to be pressed after pressing, and

- that β(starr) assumes values with β(starr)<0.15, preferably β(starr)<0.12, particularly preferably β(starr)<0.10.

12. System (2; 102) according to any one of claims 3 to 11, characterised in,

- that the degree of compression β(flex) when the second fitting (40, 140) is press-fitted to a flexible pipe (6) is given by $\beta(flex) = \frac{DK(flex)+2s(flex)-DPK(flex)}{\mathrm{DR}(flex)}$, with the inner diameter DK(flex) of the chamber (43, 143) of the press sleeve (41, 141) of the second fitting (40, 140) before pressing, with the wall thickness s(flex) of the press sleeve (41, 141) in the area of the second fitting (40, 140) to be pressed before pressing, with the outer diameter DR(flex) of the flexible pipe (6) to be accommodated before pressing and with the inner diameter DPK(flex) of the press contour (8, 108) of the press jaw (10, 110) in the region of the second fitting (40, 140) to be pressed after pressing, and
- that β(flex) assumes values with β(flex)<0.15, preferably β(flex)<0.12, particularly preferably β(flex) <0.10.

13. System (2; 102) according to any one of claims 3 to 12, characterised in,

- that the degree of compression β(starr) when the first fitting (20, 120) is press-fitted to a rigid pipe (4) is given by $\beta(starr) = \frac{DK(starr)+2s(starr)-DPK(starr)}{\mathrm{DR}(starr)}$, with the inner diameter DK(starr) of the chamber (23) of the press sleeve (21, 121) of the first fitting (20, 120) before pressing, with the wall thickness s(starr) of the press sleeve (21, 121) in the area of the first fitting (20, 120) to be pressed before pressing, with the outer diameter DR(starr) of the rigid pipe (4) to be accommodated before pressing and

with the inner diameter DKP(starr) of the press jaw (10, 110) in the region of the first fitting (20, 120) to be pressed after pressing,

- that the degree of compression β(flex) when the second fitting (40, 140) is press-fitted to a flexible pipe (6) is given by $\beta(flex) = \frac{DK(flex)+2s(flex)-DPK(flex)}{\mathrm{DR}(flex)}$,

with the inner diameter DK(flex) of the chamber (43, 143) of the press sleeve (41, 141) of the second fitting (40, 140) before pressing,
with the wall thickness s(flex) of the press sleeve (41, 141) in the area of the second fitting (40, 140) to be pressed before pressing,
with the outer diameter DR(flex) of the flexible pipe (6) to be accommodated before pressing and
with the inner diameter DPK(flex) of the press contour (8, 108) of the press jaw (10, 110) in the region of the second fitting (40, 140) to be pressed after pressing,

- that the ratio τ is given by
$\tau = \frac{\beta(starr)}{\beta(flex)} = \frac{DK(starr)+2s(starr)-DPK(starr)}{DK(flex)+2s(flex)-DPK(flex)} \frac{\mathrm{DR}(flex)}{\mathrm{DR}(starr)}$, and
- that τ assumes values from a value range [0.50; 1.50], preferably [0.75; 1.25], particularly preferably [0.80; 1.20].