## Claims

1. A lock cylinder (11)
comprising
- a cylinder housing (13) having a core receiving section (15);
- a cylinder core (19) that is rotatably supported in the core receiving section (15) about a cylinder axis of rotation (D) between a closed position (G) and an open position (O) and that has a keyway (21) which extends along the cylinder axis of rotation (D) and into which an associated key (23) can be introduced along a key introduction direction (E) through a key introduction opening (25), wherein the keyway (21) has an elongate cross-section having two mutually opposite keyway broad sides (27, 29) and two mutually opposite keyway (21) narrow sides;
- at least one tumbler (35) that is configured to secure the cylinder core (19) that is in the closed position (G) against a rotation into the open position (O) when the key (23) is not introduced into the keyway (21), wherein, by introducing the associated key (23), the at least one tumbler (35) can be sorted into a release configuration in which the at least one tumbler (35) releases the cylinder core (19) for a rotation relative to the cylinder housing (13); and
- a blocking device (75) that has a querying pin (77), which is preloaded towards the keyway (21) and which engages into the keyway (21), and a blocking pin (83) arranged in alignment with the querying pin (77),

wherein the blocking pin (83) is outwardly preloaded into a blocking position (S) with respect to the cylinder axis of rotation (D) and is configured to prevent a rotation of the cylinder core (19) into the open position (O) in the blocking position (S), and

wherein the querying pin (77) can be urged into a querying position (A) by fully introducing the associated key (23) into the keyway (21),

wherein the querying pin (77) has a permanent magnet (95) at an end section (107) facing the blocking pin (83) and/or wherein the blocking pin (83) has a permanent magnet (95) at an end section facing the querying pin (77), and

wherein the permanent magnet (95) is configured to hold the blocking pin (83) in a release position (F) – in which the blocking pin (83) releases the cylinder core

(19) for a rotation into the open position (O) – against the preload of the blocking pin (83) when the querying pin (77) is urged into the querying position (A).

2. The lock cylinder (11) according to claim 1,
wherein, in the closed position (G) of the cylinder core (19), the blocking pin (83) engages into a blocking recess (97) formed at the cylinder housing (13); and/or
wherein the querying pin (77) engages into the keyway (21) at one of the keyway broad sides (27, 29); and/or
wherein the querying pin (77) is more strongly preloaded than the blocking pin (83).

3. The lock cylinder (11) according to claim 1 or 2,
wherein the cylinder housing (13) has a querying contour (99), wherein, by rotating the cylinder core (19) starting from the closed position (G) into a querying rotational position (C), the blocking pin (83) can be moved along the querying contour (99) towards the querying pin (77), in particular can be urged into the release position (F), and wherein the querying pin (77) and/or the blocking pin (83), upon reaching the querying rotational position (C), can be brought into active contact with the permanent magnet (95) when the querying pin (77) is in the querying position (A),
in particular wherein the querying contour (99) has a querying slope (103) along which the blocking pin (83) can be guided from the closed position (G) into the querying position (A) during the rotation of the cylinder core (19); and/or
in particular wherein the querying contour (99) has a querying section (101) that extends at least up to an outer side of the cylinder core (19), wherein the blocking pin (83) contacts the querying section (101) in the querying rotational position (C).

4. The lock cylinder according to claim 3,
wherein the cylinder core (19) can be rotated from the querying rotational position (C) towards the open position (O) up to and into a blocking rotational position (B) when the querying pin (77) is not in the querying position (A),
wherein the blocking pin (83) is configured, when the querying pin (77) is not in the querying position (A), to enter into engagement with a blocking receiver

(109) of the querying contour (99) due to the preload of said blocking pin (83) by rotating the cylinder core (19) from the querying rotational position (C) into the blocking rotational position (B), wherein the blocking receiver (109) has a blocking abutment (111) for the blocking pin (83), with the blocking pin (83), which engages into the blocking receiver (109), abutting said blocking abutment (111) upon reaching the blocking rotational position (B),
in particular wherein the cylinder core (19) can be rotated from the blocking rotational position (B) into the closed position (G) when the querying pin (77) is not in the querying position (A); and/or
in particular wherein the querying contour (99) has a return slope (105) along which the blocking pin (83) can be guided out of the blocking receiver (109) on a rotation of the cylinder core (19) from the blocking rotational position (B) towards the closed position (G).

5. The lock cylinder according to claim 3 or 4,
wherein the cylinder core (19) can be rotated from the closed position (G) via the querying rotational position (C) into the open position (O), or wherein the cylinder core (19) can be rotated from the closed position (G) along a first direction of rotation (D2) into the querying rotational position (C) and from the querying rotational position (C) along a second direction of rotation (D1), which is opposite the first direction of rotation (D2), into the open position (O).

6. The lock cylinder (11) according to any one of the preceding claims,
wherein the permanent magnet (95) is configured to pull the blocking pin (83) into the release position (F) against the preload of the blocking pin (83) when the querying pin (77) is in the querying position (A); and/or
wherein the querying pin (77) can be urged into the querying position (A) by a coding elevation (125) that is arranged in an axial groove (51) extending from a key tip (91).

7. The lock cylinder (11) according to any one of the preceding claims,
wherein the querying pin (77) and the blocking pin (83) as well as respective preloading elements for generating the respective preload, in particular respective springs (79, 85), can be preassembled in an assembly sleeve (89),

wherein the cylinder core (19) has an assembly receiver (113) into which the assembly sleeve (89) can be inserted.

8. The lock cylinder (11) according to any one of the preceding claims, wherein the lock cylinder (11) further has a coding device (39) that has a first axial abutment (41) and a second axial abutment (43) for the key (23), wherein the first axial abutment (41) and the second axial abutment (43) engage into the keyway (21) and wherein the second axial abutment (43) is offset along the key introduction direction (E) with respect to the first axial abutment (41) towards an axial end of the cylinder core (19), said axial end facing away from the key introduction opening (25),
wherein the first axial abutment (41) has a passage (45) for allowing a coding elevation (125) formed at the associated key (23) to pass through, and wherein the second axial abutment (43) forms an abutment for the coding elevation (125),
in particular wherein the coding device (39) and the querying pin (77) engage into the keyway (21) at mutually opposite keyway broad sides (27, 29); and/or
in particular wherein the coding device (39) and the querying pin (77) are configured to cooperate with respective coding elevations (125) that are formed at mutually opposite key broad sides (115, 117) of the associated key (23).

9. The lock cylinder according to claim 8,
wherein the passage (45) has two lateral boundaries (47) which are offset from one another transversely to the cylinder axis of rotation (D) and through which the coding elevation (125) can be guided upon an introduction of the key (23) into the keyway (21);
in particular wherein end faces (49) of the boundaries (47) that face the key introduction opening (25) form the first axial abutment (41); and/or
in particular wherein outer surfaces of the boundaries (47) that face away from the passage (45) form an inner guide for a groove (51) which is formed at the associated key (23) and in which the coding elevation (125) is formed; and/or
in particular wherein the passage (45) is formed in the shape of an archway and wherein the first abutment has a connection section (53) by which the lateral

boundaries (47) are connected to one another at a side of the first axial abutment (41) that faces away from the keyway (21).

10. The lock cylinder according to claim 8 or 9,
wherein the first axial abutment (41) and the second axial abutment (43) are formed at respective coding elements (56) inserted into the cylinder core (19), in particular at respective small plates (57),
in particular wherein the cylinder core (19) has a receiver (59) for inserting the coding elements (56),
wherein the receiver (59) preferably has, at an outer side of the cylinder core (19), a receiving opening (61) through which the coding elements (56) can be inserted into the receiver, wherein the inserted coding elements (56) extend radially up to the outer side of the cylinder core (19) and have, at the outer side, a curvature corresponding to the cylinder core (19).

11. The lock cylinder according to claim 8 or 9,
wherein the coding device (39) has a single-piece coding element (63) at which the first axial abutment (41) and the second axial abutment (43) are formed,
in particular wherein the coding element (63) is molded to the cylinder core (19),
in particular wherein the cylinder core (19) comprises two cylinder core halves (65, 67), wherein the coding element (63) is molded to one of the two cylinder core halves (65, 67); and/or
in particular wherein the coding element (63) is configured in the manner of a fork (69) and has two prolongations (71) which bound the passage (45), which face towards the key introduction opening (25) and between which the coding elevation (125) can be introduced into the fork (69), wherein the prolongations (71) form the first axial abutment (41) and wherein a receiving section (73) that connects the two prolongations (71) at a side of the fork (69) that faces away from the key introduction opening (25) forms the second axial abutment (43).

12. The locking system (123) comprising a lock cylinder (11) according to any one of the preceding claims and the associated key.

13. The locking system (123) according to claim 12,

wherein the associated key (23) has an axial groove (51) which starts from a key tip (91) and in which a coding elevation (125) is arranged, wherein the coding elevation (125) is configured to urge the querying pin (77) into the querying position (A) when the key (23) is fully introduced into the keyway (21), in particular wherein the coding elevation (125) is formed free-standing in the groove (51); and/or

in particular wherein the coding elevation (125) has a recess (129) for an engagement of the querying pin (77) at a querying surface that faces towards the querying pin (77) when the key (23) is introduced into the keyway (21).

14. The locking system (123) according to claim 12 or 13,

wherein the associated key (23) is configured as a reversible key that has an elongate key shank (127) and that has two mutually opposite key broad sides (115, 117) and two mutually opposite key narrow sides (119, 121), wherein the key (23) has a respective groove (51) with a coding elevation (125) arranged therein at each of the key broad sides (115, 117),

in particular wherein the lock cylinder (11) further has a coding device (39) that has a first axial abutment (41) and a second axial abutment (43) for the key (23), wherein the first axial abutment (41) and the second axial abutment (43) engage into the keyway (21) and wherein the second axial abutment (43) is offset along the key introduction direction (E) with respect to the first axial abutment (41) towards an axial end of the cylinder core (19), said axial end facing away from the key introduction opening (25),

wherein the first axial abutment (41) has a passage (45) for allowing the one coding elevation (125) of the two coding elevations (125) to pass through, and wherein the second axial abutment (43) forms an abutment for the one coding elevation (125),

wherein the other of the two coding elevations (125) of the associated key (23) is configured to urge the querying pin (77) into the querying position (A) when the one coding elevation (125) contacts the second axial abutment (43).

15. The key for use in a locking system (123) according to any one of the claims 12 to 14,

wherein the key (23) is configured to sort the at least one tumbler (35) into the release configuration upon a full introduction into the keyway (21), and wherein the key (23) has a coding elevation (125) that is configured to urge the querying pin (77) into the querying position (A) upon full introduction of the key (23) into the keyway (21),

in particular wherein the coding elevation (125) is arranged, in particular in a free-standing manner, in an axial groove (51) starting from a key tip (91); and/or

in particular wherein the coding elevation (125) has a recess (129) for an engagement of the querying pin (77) at a querying surface that faces towards the querying pin (77) when the key (23) is introduced into the keyway (21); and/or

in particular wherein the key (23) is configured as a reversible key that has an elongate key shank (127) and that has two mutually opposite key broad sides (115, 117) and two mutually opposite key narrow sides (119, 121), wherein the key (23) has a respective groove (51) with a coding elevation (125) arranged therein at each of the key broad sides (115, 117).